THE CAUSE AND CURE OF COLDS

WILLIAM S. SADLER, M. D.

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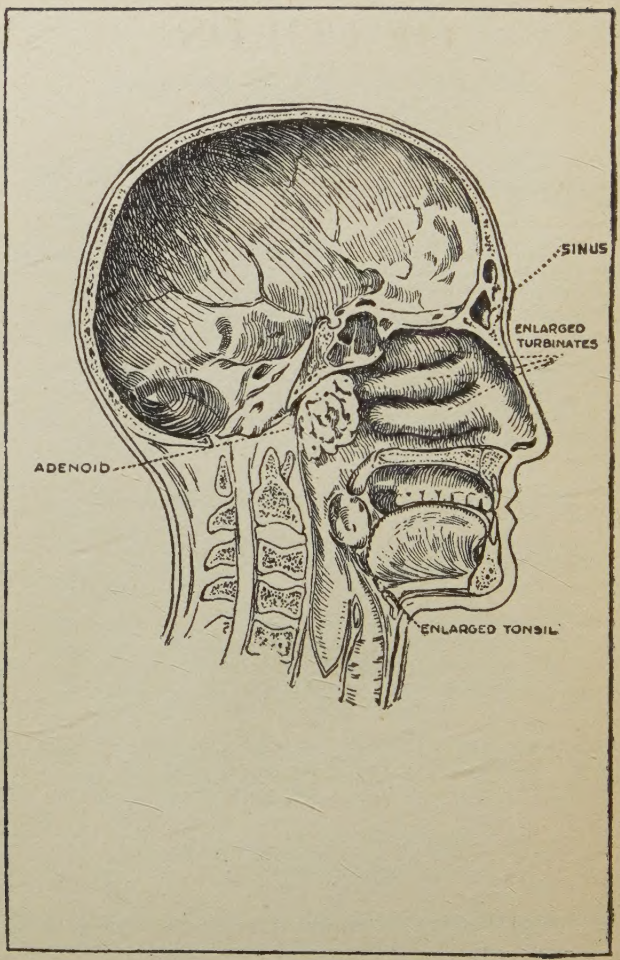

FIG. 1. Sectional view of Nose and Throat.

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THE CAUSE AND CURE OF COLDS

BY

WILLIAM S. SADLER, M. D., F. A. C. S.

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DEDICATED
TO
THE VICTIMS OF COMMON COLDS, AND
TO ALL WHO LIVE IN CONSTANT
FEAR OF CATCHING COLD

PREFACE

OF all the minor maladies from which the civilized races generally suffer, common colds are undoubtedly the most widespread and distressing. Colds, constipation, and headache constitute a trio of common afflictions which are very largely preventable.

Fully nine-tenths of these distressing minor maladies, together with their attendant social inconvenience and pecuniary loss, could be easily prevented.

Professor Irving Fisher, in his report on "National Vitality" prepared for The National Conservation Commission, estimates that the average well man is compelled to lose about five days each year as the result of colds, headaches, and other of these minor physical disorders.

The author's lecture, "Catching and Curing a Cold," is given to about one hundred thousand people each summer at the leading Chau-

tauquas, and for several years it has been his practice to question these audiences as to the number of days lost each year because of colds. While statistics of this sort are not absolutely reliable, being largely based upon memory and gathered hurriedly in public; nevertheless, as the result of these observations, we are convinced that the average adult annually sustains a loss of between two and three working days as the result of "bad colds," "colds in the head," or "a slight touch of the grippe."

Suppose we allow that the adult wage-earner loses on an average but two days annually as the result of colds. Let us estimate the daily wage of such men at two dollars. It is certain that large numbers of people who are kept from their work by colds sustain a loss equal to many times this sum. Now, estimating that we have, say, fifteen millions of wage-earners who are thus afflicted each year, it will at once appear that we have a direct economic loss of *sixty million dollars.*

Further inquiries conducted by the author tend to show that the average individual spends from one to two dollars on either patent medi-

cines, "cold cures," or physicians' fees each year in the treatment of this so-called minor affliction. Twenty million dollars each year would be a very moderate estimate for what is spent directly on the treatment of colds, and this hardly makes allowance for the money spent in treating colds in the case of infants, children, and other non-wage-earners, all of whom suffer equally from this complaint. Thus, by the most moderate estimates based upon fairly reliable data, we have a direct annual loss to the American people of fully *eighty million dollars* as the result of colds. If the real facts were fully known and we were in possession of absolutely reliable statistics, we believe this sum would undoubtedly mount up to more than one hundred million dollars. It certainly would if influenza and its after disability and treatment were taken into account. But let us be moderate in dealing with statistics of this sort, and estimate the annual pecuniary loss from colds, direct and indirect, at *eighty million dollars.*

But the monetary loss from these minor maladies is indeed a very small part of the

harm they accomplish. Medical men are now awakening to the fact that colds in the head, chronic catarrh, the grippe, etc., are proving to be the forerunners, in many cases, of more severe maladies, and ofttimes they lay the foundation for various deadly diseases, including tuberculosis and pneumonia, together with serious disorders of the nervous system, and grave diseases of both the heart and the kidneys.

Colds are not only responsible for an enormous pecuniary loss, but they must be looked upon as undermining and sapping the vitality of the people; as lowering the vital resistance of the individual to other and more serious infections.

Colds are also directly concerned in decreasing the general efficiency of all who are attacked. The estimate of the loss of two or three days each year from colds does not include the days of decreasing efficiency which so often precede the actual absence of the individual from work, neither does it take into account the days or even weeks of decreased efficiency which frequently follow cold-infections,

although the sufferer has returned to work and is vainly endeavoring to perform his customary tasks. It is a well-known fact that both mental efficiency and the physical capacity for work are greatly lessened in the case of those who are suffering, or recently have suffered, from a bad cold.

Colds result in untold inconvenience, in that they often seriously interfere with the fulfilment of business, professional, and social engagements. The catching of a cold is liable to interfere with both the small social gathering and the large public meeting. A public lecturer is not only prevented from delivering his message as the result of catching a cold, but the humble citizen is also prevented from hearing it; for one who is suffering from a cold in the head seldom desires to attend either private social functions or public lectures. But this indisposition is hardly to be regarded as an unmixed curse. Sufferers from a severe cold should go to bed. It is for their good as well as the good of the community, that colds should be more or less quarantined, for, in the last analysis, most colds are infectious maladies.

The individual suffering from a cold is not only a health menace to those with whom he mingles, but he is also quite incapacitated for doing himself any special honor in the realms of social conquest.

While this volume is based largely upon the author's Chautauqua lecture, "Catching and Curing a Cold," much of the matter found in Chapters IV, V, and VI was originally prepared for "The Designer," and our thanks are due the editor for his courteous permission to publish this matter in permanent form.

It is the sincere desire of the author that this little work shall contribute something toward a sensible understanding of the cause of colds, aid in their prevention, and materially assist in their successful management and treatment in accordance with rational rules and scientific principles.

WILLIAM S. SADLER.

September 1, 1910.

PREFACE TO REVISED EDITION

A DOZEN years have passed since the first edition of *The Cause and Cure of Colds* was issued, and during this period, while the fundamental principles of the management of common colds have changed but little, nevertheless many new developments having to do with the treatment of colds by means of modern vaccines have been suggested, and the author takes advantage of the opportunity presented by the publisher in bringing out the fifth edition of this little work, to bring the presentation of this phase of the treatment of colds up to date by the addition of such new matter as will be found in Chapter X, where this and other more recent phases of the cause and treatment of common colds are discussed.

Not long ago a group of physicians in Boston sent out postcard inquiries to one thousand of their patients, and it was found that the aver-

age cost of a cold, in the case of these one thousand persons, was twenty-two dollars.

The author is encouraged, by the reception given the earlier editions of this work, to believe that this little book will prove to be of even more service to those who suffer from repeated or chronic colds, by this revision of the text, as well as by the new matter which has been added to the concluding chapters.

WILLIAM S. SADLER.

533 Diversey Parkway, Chicago,
January 4, 1922.

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THE CAUSE AND CURE OF COLDS

CHAPTER I

WHAT IS A COMMON COLD?

DEFINITIONS.—COLDS TO BE TAKEN SERIOUSLY.—CLASSIFICATION OF COLDS.—COLDS DUE TO SOME SPECIFIC GERM INFECTION.—COLDS DUE TO A DISTURBANCE OF THE CIRCULATION.—COLDS DUE TO DERANGEMENT OF NUTRITION.—THE COMMON COLD AN INFECTIOUS DISEASE.

BEFORE we attempt to discuss intelligently the causes, prevention, cure, and consequences of the common household cold, it will be necessary to seek for a definition of the term, and otherwise discuss its real meaning and significance as currently used by the common people.

DEFINITIONS

Webster defines a cold as follows: "An indisposition occasioned by exposure to cold or to

a draught of cool air or to dampness; an acute attack of catarrh; as, to have a severe cold."

Gould's Medical Dictionary gives the following definition of a cold: "A term used popularly for coryza and catarrhal conditions of the respiratory tract."

Dorland's Medical Dictionary defines a cold thus: "A catarrhal or other disorder, due to exposure to cold and wet."

It is little wonder that the common people have perverted notions and distorted ideas respecting the nature and cause of colds, when the makers of our dictionaries sincerely offer the foregoing definitions as expressing the correct conception of a common cold.

It is apparent from these definitions that the old-time notion that colds owe their origin to rainy days, dampness, exposure, cold air, and draughts, has not been successfully refuted by the modern germ theory. As will be shown subsequently, these conditions of temperature, air, and moisture are but contributing factors in the causation of common colds. Further, these climatic influences, which are ordinarily regarded as the real cause of a cold, exert but

a secondary influence in producing the pathological conditions commonly described under the terms coryza, acute catarrh, and common colds.

Of all the common, minor maladies afflicting the civilized races probably none are more troublesome and more completely misunderstood than common colds; while they certainly occasion more and greater inconvenience than all the rest of the minor maladies put together. By far the majority of our population, young and old, fall victims one or more times each year, to a cold of more or less severity; in duration lasting anywhere from two or three days to two or three weeks.

COLDS TO BE TAKEN SERIOUSLY

The time has come for intelligent people to take common colds seriously, for when they are severe and frequent — when they manifest a tendency to "hang on"— they may lay the foundation for numerous chronic diseased conditions of both the nose and the throat.

Severe colds, when persistent and neglected, may do much toward predisposing certain

weakened and debilitated individuals, who possess a low degree of vital resistance, to bronchitis, pneumonia, pleurisy, and even tuberculosis (consumption).

In the use of the term "colds" we usually refer to an acute infection or inflammation in the head, particularly affecting the nose, and accompanied in the early stage by sneezing, chilliness, shivering, fullness in the head; and later by muscular pains, dry skin, constipation, impairment of the senses of taste and smell, varying mucus discharge (becoming purulent in two or three days), more or less sore throat, sometimes cough, hoarseness, headache, fever, etc. A cold usually runs from seven to ten days. The patient is often taken suddenly with sneezing and chilliness, and this is soon followed by a state of general feverishness. This same group of symptoms which marks the early stages of a cold, also ushers in numerous infectious diseases, including diphtheria, typhoid fever, smallpox, scarlet fever, whooping-cough, measles, pneumonia, and influenza.

"Chills and fever" constitute a group of symptoms which mark the beginning or early

stages of practically all the common, acute, infectious diseases. All children exhibiting symptoms of a "fresh cold" should be taken out of school and properly isolated from the family until either time or the doctor pronounces them free from some contagious disease.

One of the questions constantly asked by our patients who are frequent sufferers from colds, is: "Doctor, what is the real cause of my bad colds; why do I catch cold so often; what makes it hang on so long?"

CLASSIFICATION OF COLDS

A somewhat different answer must be found for this question in the case of almost every patient, but observation and study have led the author into the belief that there are three great classes of colds. That is, while we are forced to recognize that some microbe is at the bottom of practically every cold, nevertheless, the vast majority of common colds may be grouped under one of the following heads:

1. *Colds due entirely to some specific germ infection.* This group of colds includes the milder forms of influenza or "grippe," a malady

which especially affects the nose, throat, and the respiratory passages. There are various colds other than influenza which also belong under this head. In fact, practically every cold is a case of the individual's succumbing to the attacks of some cold germ, varieties of which are ever present on the mucous membranes of the nose and throat.

It is highly probable that no amount of cold bathing and other commonly advised preventives of colds will always serve to prevent one from contracting these infectious colds. They strike individuals in the neighborhood with the unconcern and impartiality shown by measles, mumps, or smallpox, when these maladies are abroad in the community. These infectious colds sometimes become epidemic, and it is quite likely that the individual's general physical state has but little to do with their contraction.

2. *Colds due primarily to a disturbance of the circulation.* This group of colds is largely preventable by means of the proper adjustment of the clothing, by avoiding draughts when fatigued, by preventing chilling, exposure, cold feet, etc. Certain individuals afflicted with an

unstable circulation, having a pale skin with slow and sluggish blood movement, with habitually cold hands and feet, find themselves very easily and quickly chilled when some portion of the body is subjected to slight draughts or when otherwise exposed to rapidly cooling influences. Proper methods for overcoming this instability of the skin-circulation will be considered later, under the head of the prevention of colds.

3. *Colds largely due to deranged nutrition and disordered metabolism.* Another group of colds, the author believes, is caused, directly or indirectly, by certain disorders of digestion and derangement of nutrition. The victims of chronic dyspepsia and constipation suffer more or less from acidæmia, a bodily state in which an abnormal amount of certain acids are circulating in the blood. This acid condition of the blood stream is not only irritating to the mucous membrane of the nose, throat, and lungs; but it also cripples the action of the white blood cells, whose work of destroying germs is so vitally connected with the prevention of colds and the preservation of health.

These disorders of digestion and nutrition, which are so closely connected with the subject of colds, will also be further considered later.

THE COMMON COLD AN INFECTIOUS DISEASE

A cold, then, may be defined as an acute infectious disease, more or less contagious, chiefly and primarily affecting the mucous membrane of the nose and throat. Numerous conditions pertaining to the physical health of the individual, as well as the nature of his immediate surroundings, are all directly or indirectly concerned in producing a favorable soil for the growth, development, and spread of the microbes responsible for the cold.

The sneezing which usually accompanies the "catching of a cold" is a symptom of the first stage of the disease,—it is positive evidence of the cold you already have. Both chilling and sneezing are indications that you already have a cold, that the infection has taken root; the germs have begun to multiply, the mischief has begun to spread.

And so all the evidence points to the fact

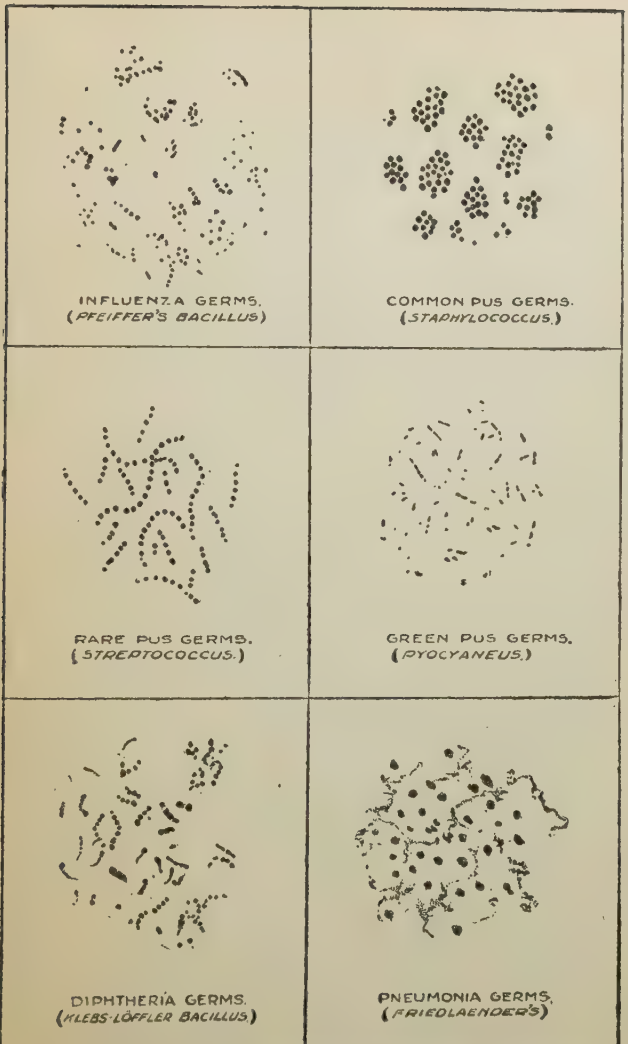

FIG. 2. Group of Germs causing colds.

that the ordinary household malady described under the term of a common cold is an infectious disease, and it should be treated and regulated accordingly.

Further reasons for regarding colds as being caused by certain microbes (see Fig. 2) which take advantage of the disturbance of one's circulation or the derangement of one's nutrition, may be cited as follows:

1. Colds are shown to be contagious, and therefore caused by germs: by the simple fact that they are "catching," one can take a cold from another person who has a cold.

2. Severe colds always begin with a sensation of chilliness followed by more or less of a fever — chills and fever. That is the identical manner in which practically every infectious disease caused by microbes begins its career.

3. Like all germ-caused diseases, colds have a tendency to run a more or less definite course. They are self-limited; that is, after a certain time, they usually begin to recover of themselves. In this way a cold behaves exactly as do measles, chicken-pox, scarlet-fever, pneumonia, etc.

4. Like other infectious diseases, colds may be followed by inflammations in various internal organs, producing a congestion of the stomach, lungs, liver, spleen, or kidneys. These secondary results are due to the irritating effects of the poisons (toxins) of the germs circulating in the blood stream of the patient. These symptoms of secondary poisoning follow in the wake of colds and influenza, just as they follow attacks of diphtheria and scarlet-fever.

5. Colds are shown to be infectious by the fact that they are usually, sometimes highly, contagious: when we have a severe cold we can give it to others, to those individuals who are susceptible.

6. Colds, like other contagious maladies, can be prevented, controlled, and regulated by isolation and quarantine; and we should hasten the time when they will be thus sensibly regarded and scientifically treated.

7. Colds are shown to be more or less infectious by the fact that they can generally, in their earlier stages, be successfully treated and

effectually aborted, by the use of antiseptic nose washes and germicidal throat gargles.

8. That common colds are of an infectious nature is further suggested by the well-known fact that a severe cold seems to confer a short-lived immunity upon its victim. That is, a healthy, robust person who is just recovering from a very bad cold is not likely to have another such attack for several months, maybe not for a full year. Some folks have their regular colds once each winter; then they are seldom bothered for another year.

9. Common colds are also, at least in some degree, amenable to the modern vaccine treatment. While we cannot vaccinate against colds as we do against typhoid, nevertheless, our experience has shown that certain vaccines directed against colds are of considerable value. This phase of treating colds will be further considered in Chapter X.

CHAPTER II

THE PREDISPOSING CAUSES OF COMMON COLDS

Overeating and indigestion.—Excess of protein.—Dyspepsia and acidæmia.—Chronic constipation.—Overclothing or errors in clothing.—Inactivity of the skin.—The sedentary life.—Lowered vitality and fatigue.—The mental state.—Alcoholic excesses, etc.

COLD-CAUSES may be divided into two classes: the predisposing, that is, those conditions of the body indirectly favoring colds; and the exciting, that is, the immediate or provoking influence producing the cold.

The various bodily states and physical habits which favor taking cold are quite numerous. The term "colds" is but a reminder that this infection is popularly supposed to be caused by the influence of cold air, exposure, or low temperature. At the very outset we endeav-

ored to dispel this delusion. High temperatures, as a rule, have more to do with colds than low temperatures; in fact, it would be decidedly more proper to speak of "catching heat" than of "catching cold." The predisposing causes of colds may be enumerated as follows:

1. *Overeating and indigestion.* The practice of habitually taking into the stomach more food than is required to nourish and sustain the body results in overworking the digestive organs, clogging the system, and greatly overtaxing the organs engaged in the elimination of body-poisons and waste matters — the skin, kidneys, etc. When in such a state as this, the body is ill prepared to fight hostile microbes and resist infectious colds. The first great cause of colds is overeating combined with underworking.

The author has seen many sufferers from chronic colds greatly helped or permanently cured by improving digestion and cutting down their daily ration, thus effectually preventing intestinal fermentation and putrefaction, with the consequent absorption of poisons and tox-

ins through the bowel tract into the blood stream.

The observing physician is forced to recognize that there exists more than an accidental relationship between habitual gluttony and frequently recurrent colds. The dyspeptic is doubly predisposed to take cold from the slightest exposure or from the least disturbance of the circulation.

2. *Excess of protein.* Occasionally, we find an individual who is predisposed to catarrh and colds, because he is anæmic and undernourished; either because he eats too little, or he does not assimilate his food, or his food is not nutritious and abundant. On the other hand, a large percentage of the sufferers from chronic and repeated colds are found among the high protein consumers, the heavy meat-eaters.

As a nation, we are large meat-eaters, daily consuming from two to three times the amount of protein required to maintain the body in a state of perfect health. This fact has been shown clearly by the reliable experiments of Professor Chittenden, of Yale, as well as by

the observations and experiments of numerous other investigators along the lines of dietetics and nutrition.

It is not alone the author's experience, but also that of many of his patients, that a reduction in the protein food element has been followed speedily by a reduction in colds, both in frequency and severity. This will be considered more fully under the head of the prevention of colds.

3. *Dyspepsia and acidæmia.* It is commonly observed that severe and acute colds frequently follow attacks of acute indigestion. Chronic dyspepsia and chronic colds go hand in hand. As previously noted, the acid state of the blood which accompanies indigestion and dyspepsia, predisposes to all infections and various inflammations, while at the same time greatly crippling the body in its efforts to fight germs and withstand infection. The liberal use of the strong condiments undoubtedly irritates the nose and throat and thus favors congestion and colds.

All victims of dyspepsia suffer more or less from poor circulation, together with disturb-

ances of the nervous system and derangements of the heat-regulating mechanism of the body. These abnormalities in the working of important physical functions greatly predispose the dyspeptic to catching cold upon the slightest provocation.

4. *Chronic constipation.* Either all alone or accompanying the foregoing conditions, constipation is certainly, in some measure, responsible for the annoying habit of catching cold so troublesome to some people. It is a common bit of history to elicit from patients who are coming down with the grippe or a severe cold, that their bowels usually move quite regularly, but that for the past week they had been somewhat constipated. Sluggishness of the bowel, in the majority of cases, precedes the taking of cold.

Even in the case of infants and young children, a period of more or less constipation is almost certain to be followed by a bad cold. The absorption of intestinal toxins seems to be very closely related to the tendency to take cold in many individuals, and this constitutes

the great reason for the early use of cathartics when one is "coming down with a cold."

5. *Errors in clothing.* Another of the predisposing causes of colds is the wearing of too much clothing. (See Fig. 3.) Many of the victims of recurring colds wear so much heavy woollen underclothing that they continually are perspiring, and thus they expose themselves to additional dangers of chilling and taking cold.

The opposite extreme — the wearing of too little clothing and the consequent exposure and chilling which would inevitably follow — must result in greatly predisposing ill-nourished and otherwise susceptible persons to catching frequent and severe colds. (See Fig. 3.)

The habit of wearing thick furs over some portions of the body, as about the neck, should be avoided, except in the severest of cold weather. Tight collars and tight neck bands favor congestion and sore throat. So-called "chest protectors" are a snare and a delusion. These devices invariably render their wearers more liable to contract colds. Especially is it

unhealthy to wear heavy woollen undergarments and street clothes when employed indoors the greater part of the day. Rubbers, mackintosh coats, and other sweat-retaining garments, all debilitate the skin and favor taking cold.

6. *Inactivity of the skin.* This is undoubtedly one of the greatest predisposing causes of colds. The physicians of the next generation will pay more attention to the hygiene of the skin than we do at present. The skin is an organ of great importance when studied from the standpoint of colds. The average individual has about seventeen square feet of skin whose countless thousands of eliminating ducts represent an area of almost eleven thousand square feet, while these eliminating tubes if placed end to end would make a single sewer about ten miles long.

When the skin is dry, rough, leathery, cold, and bloodless, it indicates that the internal organs and mucous membranes are more or less congested, and internal congestion is just the condition that favors taking cold.

In this way congestion of the lungs favors bronchitis and pneumonia. Chilling of the

FIG. 3. Errors in Clothing which predispose to catching cold.

skin and unbalancing of the general circulation results in producing conditions in the nose and throat in every way favorable to the growth and activity of the various germs which are ever found there, and which, when suitably aroused, are capable of rapid development and untold mischief.

7. *The sedentary life.* There can be little doubt that the indoor life predisposes to colds. Sedentary workers are subjected, as a rule, to an overheated atmosphere during the winter. They are usually compelled to breathe foul air, which irritates the nose and throat and favors infection and subsequent inflammation of the mucous membranes.

Again, lack of physical exercise results in the sluggish circulation of the blood through both muscles and skin, and this all favors the taking of cold, when persons in such circumstances are momentarily exposed to draughts or other chilling influences. Likewise, the inhalation of smoke and other irritating gases from locomotives or manufacturing plants tends to irritate the nose and throat, and predisposes to colds.

Any person who has a normal, healthy circulation, especially one who habitually lives out of doors, can successfully withstand almost any and every degree of exposure to the various common cold-causes.

8. *Lowered vitality and fatigue.* All persons suffering from lingering and wasting diseases, together with those having lowered vitality from whatever cause, are predisposed to recurrent colds. One is also more likely to catch cold when fatigued, as in the evening after a day's hard work, or after having undergone some severe physical or nervous strain.

Any scheme for preventing colds which does not aim at the development of the power of vital resistance — at increasing one's powers of reaction to infection — is doomed to certain failure. Any and all influences which in any manner lower the vital resistance, greatly increase the likelihood of taking cold.

By far the majority of common colds are contracted at night, when the body is wearied and the vital resistance is greatly lowered. Chronic nasal catarrh — itself often a result of lowered vitality — is also a cause of many

acute colds. In fact, many persons have a smouldering cold in the form of chronic catarrh lingering in the nose all the time.

9. *The mental state.* There can be little question, from our knowledge of the influence of the mind on the circulation of the blood,—especially blood movement through the skin,—that a person's mental state may often act as a predisposing cause of colds.

Victims of fear, grief, and chronic worry, usually have pale skins; and in this way, by its influence upon the skin-circulation, the mind itself may contribute to that disturbance of the circulation which so predisposes to the catching of colds. The fear of night air has acquired the dignity of a popular superstition, and is erroneously supposed to favor taking cold. Night air is colder than day air, more chilling; and only because of this fact, can night air ever be truthfully charged with causing colds. Proper and sufficient clothing will effectually rob night air of all its cold-terrors.

The despondent man or woman is undoubtedly predisposed to contract any contagion to

which he or she may be exposed. The discouraged and disheartened are the first to succumb to exposure and infection. There can be little doubt that the pessimist — other things being equal — manifests a greater tendency to take cold than does the optimist.

10. *Alcoholic excesses,* tobacco-smoking, and various other physical habits which may interfere with the individual's health by decreasing the vital resistance, or acidifying the blood, all favor the development of that bodily state which predisposes to catching cold.

It is a fact not generally understood that the constant use of the various narcotics tends to decrease the alkalinity of the blood. When the alkalinity of the blood is decreased, the vital resistance is proportionately lowered; and when the vital resistance is decreased, the individual's susceptibility to all acute infections— including common colds — is increased greatly. The commonly used narcotics, which exert a tendency toward diminishing the alkalinity of the blood, are alcohol, tobacco, tea, and coffee, as well as numerous patent medicines, headache powders, etc.

CHAPTER III

THE EXCITING CAUSES OF COMMON COLDS

Skin chilling and draughts.—Damp or cold feet.—Superheated atmosphere.—Unventilated sleeping chambers.—Improper clothing.—The influenza bacillus and other germs.

HAVING quite fully discussed the various predisposing causes of colds, we may now briefly consider the exciting or immediate causes. They may be considered under the following heads:

1. *Skin-chilling or draughts.* The ordinary healthy individual with a vigorous, active skin, good digestion, and nervous strength, is able indefinitely to withstand any ordinary draught. People with good blood and healthy blood-vessels will not catch cold because the wind blows momentarily on the back of their necks or on any other part of their body.

Those who catch cold from slight draughts

are in a precarious condition. Instability of the circulation, and a state of lowered vital resistance, make them an easy prey to any and every disease germ that may happen along. Victims of the draught bugaboo should begin at once a course of skin-gymnastics, by means of exercise and baths, which will be later suggested, and as soon as possible improve their skin-reaction to that point where they will be able to withstand all ordinary draughts.

Nevertheless, while we recommend these skin-gymnastics for persons with poor circulation and lowered vitality, we would not advise anyone to engage in foolhardy efforts to harden themselves or otherwise to expose themselves unduly to chilling influences. It requires time to make these circulatory changes.

The author at present is wearing thin cotton or linen-mesh underwear throughout the winter. Years ago he wore the heaviest woollen underwear. Several years were consumed in making this change. We have known many cases of fatal pneumonia to result

from enthusiastic efforts to harden oneself quickly to the influence of cold weather.

It is time that the *draught delusion* should be driven from our midst. Healthy people have nothing to fear from draughts. Weak and debilitated individuals who suffer from them should avail themselves of such assistance as will enable them to acquire sound digestion, active bowels, and healthy skins. And just in proportion as one improves the general health and promotes the circulation of the blood, the tendency to catch cold will certainly disappear, provided there exists no local source of irritation in the nose or throat.

2. *Damp or cold feet.* Wet feet is one of the great exciting causes of colds. Especially is this true in the case of young women. The nerves on the soles of the feet are reflexly connected with certain internal organs, among which are the mucous membrane of the nose, throat, and lungs.

Chilling the feet results in congesting the internal organs, while keeping the feet warm and full of blood, as will be seen later, is a great

aid in preventing and successfully treating colds. Of all parts of the body which should be kept warm continuously, the feet are the most important. That which is most dangerous is a combination of cold and moisture.

We have not yet improved on the advice of the old French doctor who exhorted us: "Keep the feet warm, the head cool, and the bowels open."

We greatly deprecate the recent tendency to make light of *wet feet, chilling draughts,* etc., as factors in the causation of colds. Some, in their efforts to call attention to the important fact that colds are caused by germs, in their worthy enthusiasm to expose the "draught fetich," in their endeavors to lead people to quit coddling themselves, and in their laudable efforts to dispel the erroneous notions and harmful superstitions of the past, have gone too far; they have gone so far as to assert that wet feet and other exposure have nothing to do with catching cold. They teach that draughts should be utterly ignored — and so they should; but this cannot safely be done before the body is prepared for the change. A

change in circulation is necessary before the pale-skinned and chilly victims of the "draught bugaboo" can defy successfully its dangers and delusions.

In the good work of proclaiming the more recently discovered microbic cause of colds, it is entirely unnecessary to ridicule or ignore the well-known fact that wet feet, exposure, etc., do act as predisposing causes and contributing factors in producing colds. The microbe is indeed the seed of the infection; but it requires soil as well as seed to produce a cold, and these various disturbances of circulation and metabolism are just the influences which work together for the production of suitable and favorable soil on which the ever-present cold-microbe begins its growth and its preparation for subsequent attacks upon the human body.

3. *Superheated atmosphere.* As a rule, it is not quickly going out into the cold air that causes one to take cold; it is rather the overheated indoor atmosphere with its poisonous gases that has so weakened both the skin and the air passages, that they are unable to pro-

duce a healthy reaction when suddenly exposed to cold — as in going from an overheated room immediately out of doors.

The temperature of living-rooms during the winter should range from 65 to 68 degrees F. If some of the members of the family are chilly at this temperature, let them put on wraps for a few days until they become used to it.

Recent experimental observations made in France, prove that the temperature of living-rooms is directly concerned in the question of atmospheric purity. Certain poisonous gases found in expired air are probably condensed and fall to the floor when the temperature is below 65 to 68 degrees F., whereas a higher temperature permits these subtle gases to remain in their vapory state, in which condition they are able to enter the lungs; and so they add greatly to the poisonous and deleterious influence of the atmosphere of all living-apartments which are not perfectly and ideally ventilated.

This newly discovered fact concerning the behavior of the poisonous gases of animal

respiration, goes a long way toward explaining the curious phenomena of the Icelanders and the Esquimaux sealing themselves up in their apparently air-tight ice houses for comparatively long periods, without experiencing the least discoverable ill effects from having to breathe and re-breathe the same old air. The temperature was so low that the watery vapors containing the greater part of the poisonous gases of respiration were immediately condensed, and their poisons were thus precipitated to the floor.

To live in such an air-tight apartment in a tropical clime, or even with the temperature above 70 degrees F., would soon prove fatal; and these recent experiments serve to explain these interesting, and until now puzzling, observations.

Again, when the room temperature is raised much above 70 degrees, an unconscious perspiration appears on the skin, the evaporation of which has a tendency to chill the body. This chilly sensation persists until the temperature of the room reaches the neighborhood of 80 degrees; but if the temperature be main-

tained uniformly below 70 degrees, this unconscious perspiration is prevented and these consequent chilly sensations are entirely avoided.

4. *Unventilated sleeping chambers.* We are constantly meeting cases of recurrent colds and chronic catarrh which must in some measure be chargeable to the polluted air of the sleeping-room. One should accustom himself to having all the bedroom windows wide open summer and winter. There is no reason for closing the bedroom windows of healthy persons, except in very stormy or blustery weather; certainly not to exclude the cold air. Thousands of people who are suffering from a succession of colds throughout the winter would be largely relieved of this unfortunate state of affairs, by throwing wide open the windows of the sleeping-room. Air poisoned by tobacco smoke and other noxious and irritating gases directly predisposes to colds and sore throats.

5. *Improper clothing.* The constant presence of a cold in the head is often due to the

atrocious manner in which some people dress during the winter. It is little wonder that they contract frequent colds. Women attend fashionable functions at night with the entire upper extremities scantily clad. Little girls run about on cold autumn days with low socks and bare legs. Young women go out-doors with the lower extremities underclad. Undergarments are overlapping about the abdomen, as are also the outer garments, where they are but little needed, in fact, where they may do positive harm; while the extremities, arms, ankles, and legs are underclothed and exposed to the chilling, wintry blasts. Clothing should be equalized, and all parts of the body kept moderately warm. The union suit is to be preferred over the old-fashioned shirt and drawers. All kinds of waterproof clothing are unhealthful.

The wearing of heavy woollen undergarments, especially by sedentary people and those who work indoors, is sure to predispose to catching cold; for such practices debilitate the skin and greatly decrease its powers of re-

action to draughts and other sudden changes in the state of the atmosphere, especially in its temperature.

It is equally important to emphasize the fact that colds are favored by all attempts on the part of thin, emaciated, and chilly people to go to the other extreme in their too hasty efforts to harden themselves. Colds and pneumonia may result from wearing too little clothing, as well as from wearing too much. In all these matters, let us use exalted common sense!

6. *The influenza bacillus and other germs.* After all that may be said respecting the predisposing and exciting causes of colds, it must be recognized that *microbes are usually the real exciting cause.* (See Fig. 2.) There are several tribes of germs concerned in the work of producing colds. The germ most to be dreaded, of course, is the influenza bacillus, which sometimes sweeps over the land as an epidemic wave. This germ not only produces local inflammation in the head or lungs, but floods the body with poisons which profoundly affect the heart and the nervous system.

The lumbermen who work out of doors in the northern woods are seldom bothered with our common colds, unless some visitor with a cold chances to stray into the camp. Some colds of the influenzoid type are so virulent that they attack the average man on sight; they do not wait for the production of a favorable soil as a result of exposure. On the other hand, these out-door laborers of the northern forests not infrequently subject themselves to extraordinary and unusual exposure, and never suffer in the slightest degree from colds. Such exposure would be promptly followed by a bad cold in the head if the cold-germ were present. And so our study of colds goes more and more to show that two factors are concerned in the production of all ordinary colds: the *seed,* or the microbes; and the *soil,* or the state of the health, resulting from the predisposing influences to which the individual has been subjected.

Handkerchiefs which have been used by persons suffering from colds and influenza are especially dangerous and should not carelessly be thrown about the house. The practice

of using an ordinary handkerchief for giving the "Chautauqua salute" should be discarded. Let such salutations be given with clean handkerchiefs.

And so, while we recognize certain microbes as the real exciting cause of practically all our colds, we must not overlook the fact that a group of predisposing and exciting causes almost invariably operate together to produce a favorable soil upon which these microbes may flourish. Certain abnormalities or diseased states of the nose and throat may furnish these microbes with favorable soil.

While we must regard certain germs as the seed of the cold, we are compelled to look upon the various causes before enumerated, as constituting the soil; and, as in the case of all germ diseases, it is necessary not only that the seed should be present, but also that there be a favorable soil. And this explains exactly why the same germs produce colds or influenza in one individual and not in another. In one case, the soil is favorable, in the other it is unfavorable. One individual is promptly smitten; the other wholly escapes.

CHAPTER IV

THE PREVENTION OF COLDS

THE CARE OF THE NOSE.—THE MOUTH AND THROAT.—VENTILATION AND THE STATE OF THE ATMOSPHERE.—THE PROPHYLACTIC THROAT GARGLE.—THE DAILY COLD BATH.—BALANCING THE CIRCULATION.—DAILY PHYSICAL EXERCISE.—HYGIENE OF THE BOWELS.—THE QUESTION OF DIET.—FAITH, COURAGE, AND OPTIMISM.

PERSONS of sound constitution — those who are really well — seldom take cold unless they expose themselves in an unusual manner or fall victims to certain epidemic infections, such as those of the so-called influenzoid colds. In this connection it is well to remind the reader that but few people among the civilized races enjoy perfect physical health; and, therefore, all of us are more or less subject, from time to time, to colds of varying severity.

The great difficulty about teaching people

how to avoid colds is the fact that the very things which really prevent colds are popularly supposed to cause colds: fresh air, cold air, cold baths, and outdoor exercise — the best known means of preventing colds — are all generally regarded as causing colds.

In the preceding chapters we considered the causes of colds, both remote and immediate; and it will now be in order to discuss the *prevention of colds.*

1. *The care of the nose.* Thousands of people are victims of chronic or recurring colds because the nose is diseased. It may have a crooked septum, so that one nostril is almost obliterated. The turbinate bones may be enlarged, or polypi may be growing in the nostrils. Individuals suffering from any one or a number of these abnormal conditions are doomed to suffer from frequent colds, if they are not already victims of an annoying chronic nasal catarrh. (See Fig. 1.)

There is little hope of securing relief from colds or hay-fever by practising the constitutional regime later suggested, when the nose and throat are more or less diseased. Com-

petent physicians should be consulted and these conditions remedied as the first step in the battle for the prevention of colds.

Colds commonly begin in the nose. In the case of mouth-breathers, or those who suffer from a more or less chronic tonsilitis, colds frequently begin in the throat. Any abnormal or diseased conditions in the nose, especially in the case of young people and certain weakly and debilitated persons, are sure to prove a constant source of colds in the head, or sore-throat.

2. *The mouth and throat.* All persons with a weakened constitution, all who are predisposed to catching cold, should exercise special care to keep the mouth clean and free from bacteria. Such persons should faithfully use an antiseptic mouth wash morning and evening. Cinnamon water, such as any druggist will be able to supply, will serve as an efficient mouth wash. The teeth should also be regularly cleansed by brushing thoroughly after each meal.

Many are troubled with chronic colds and catarrh, because they have *adenoids* growing in the roof of the throat. This is particularly

true of children. These soft and abnormal growths are constantly dropping their secretions down into the throat, producing almost incessant hawking and spitting on the part of their victims. Adenoids, whether found in children or adults, must be removed before we can hope to overcome the tendency to sore-throat and frequent colds. Many cases of so-called catarrh are due wholly to the presence of adenoids. But more about these troublesome growths later. (See Fig. 1.)

The throat must next receive attention. If there is chronic pharyngitis (sore-throat), it should be treated before the approach of cold weather. If the tonsils are diseased, they should be treated and, if possible, restored to a healthy state. If the patient has suffered from repeated and severe attacks of tonsilitis; if the tonsils are so diseased that they are useless to the body, they should be promptly removed. Such incurable tonsils serve as a cause of constant colds, sore-throat, and tonsilitis; and they no doubt also serve as an avenue of entrance to the body for certain infectious microbes which are probably concerned in the

production of rheumatism. It is a fact now generally accepted by the medical profession that certain forms of rheumatism may be derived from diseased tonsils. Merely clipping off a portion of the tonsil in such cases will not suffice, the whole tonsil should be removed. Having got the nose and throat in a healthy and normal state, the patient has taken the first step in the successful warfare against chronic colds.

3. *Ventilation and the state of the atmosphere.* If you would avoid colds, breathe fresh air; ventilate the work-rooms, the living-rooms, and the sleeping-rooms. Dryness of the air tempts to over-heating of the living-rooms, for dry air increases the evaporation of perspiration from the skin, thereby increasing the sensation of chilliness. Dry air at 75 degrees will feel about as chilly as moist air at 65 degrees. Stoves, coils, and furnaces should always have open vessels of water exposed to evaporation for the purpose of properly moistening the air. This moistening of the air will prove a saving of both coal bills and doctors' bills.

In the effort to prevent colds, carefully avoid public buildings, theatres, and churches, which are not properly ventilated. The "air of aristocracy" in the palace, and the "odor of sanctity" in the church, are both due to polluted atmosphere — lack of adequate ventilation; and they testify to the likely presence of a prolific crop of cold and other disease germs.

All churches, theatres, and schools ought to be regularly fumigated with formaline from once in two weeks to once in two months, according to length of occupancy and degree of ventilation.

4. *The prophylactic throat gargle.* Dryness of the nose or throat often constitutes the first warning of an approaching cold. The secretions of the nose and throat are naturally germicidal and tend to destroy and wash out all mischievous germs and their toxins. But when, from any cause, the natural secretions of nose and throat are altered or suppressed, the various germs capable of setting up irritation, and which constantly find access to nose and throat through the air we breathe, are able to find lodgment on the dry mucous

membranes and begin their pernicious activities.

At the very first notice of dryness in nose or throat, the patient should snuff up the nose some warm antiseptic solution and freely gargle with the same. In many cases a warm salt solution will be sufficient to relieve the dryness and abort the infection. Lukewarm water having a teaspoonful of salt to the pint will serve very well. Another good solution for this purpose, recognized by the U. S. Pharmacopœia, and which can be supplied by any druggist, is Dobell's Solution.

DOBELL'S SOLUTION

Sodium borate	1 drachm
Sodium bicarbonate	1 drachm
Phenol (carbolic acid)	30 grains
Glycerine	1 ounce
Distilled water	2 pints

Mix and label: Use as mouth wash, nasal douche, and throat gargle.

5. *The daily cold bath.* Of all practices calculated to prevent colds, daily cold bathing is undoubtedly the best. Subjecting the skin to repeated applications of cold water con-

stitutes a course of *vascular gymnastics* and greatly promotes the circulation of the blood through the skin. In this way the skin is prepared to withstand sudden draughts and other chilling influences resulting from unavoidable exposure to cold.

It is best to take these cold baths immediately upon rising, by means of the wet hand or a wet towel. While it is more healthful to sleep in a cold bedroom, it is desirable that these cold baths should be taken in a warm room. The ideal plan would be, while sleeping in a cold, well-ventilated bed-chamber, to have the bathroom warm, and immediately on arising, repair to the warm bathroom for taking the cold bath.

Vigorous persons, especially those who are accustomed to cold baths, will enjoy and be greatly benefited by a cold plunge in the bath-tub filled with water; and for those who desire to carry this skin training to its full limit, we would recommend *salt glows*. This procedure consists in taking about a pint of coarse barrel salt, moistening it with cold water and thoroughly rubbing this wet salt on the skin

until a red glow is obtained, after which, the patient may take a cold pour, plunge bath, or shower. These salt rubs are the most powerful means of exciting the skin circulation which can be used.

There is a certain class of people who take cold baths in the morning and enjoy them, but who have headaches in the afternoon as a result, or else they feel sleepy and experience chilly sensations playing up and down the spine. Those who are thus affected by the cold bath, are usually more or less emaciated, nervous, dyspeptic, constipated, etc. They need the reaction resulting from a cold bath, but they are unable to supply the necessary nervous energy and animal heat to produce this reaction. Such persons should not abandon the cold bath as a part of their war against recurrent colds, but should precede it with a short hot bath. Take a very hot bath for two or three minutes, following this with a cold plunge, shower, pour, or sponge bath. This preliminary hot bath will greatly increase the power for good of any succeeding cold bath; and in nearly every case, it will do away with

all the unpleasant results following the cold bath when it was taken alone. Physical exercise, such as a brisk walk in the open air, also greatly aids in producing a normal and beneficial reaction following cold baths.

6. *Balancing the circulation.* All victims of chronic colds should see to it that the skin is kept warm both day and night. The ankles and feet should be properly clothed. Under no circumstances should the extremities be allowed to go cold. Until the circulation can be improved, cold feet should be treated by means of the alternating hot and cold foot bath. Get two basins of water, one as hot as can be borne by the feet, the other as cold as you can get. Put the feet first in the hot water, then in the cold, leaving them about two minutes in the hot and about thirty seconds in the cold. Make the change fifteen or twenty times and then after leaving them for one or two minutes in the cold water, thoroughly rub and dry them. By persistent use of these alternate hot and cold foot baths, many cases of habitually cold feet can be permanently cured.

The ideal circulatory state is promoted by keeping the head cool and the feet warm. The lower extremities should be properly clothed. Many young women are suffering from chronic catarrh because of the unhealthful manner in which the lower extremities are clothed. Equalization of the general circulation is an important item in the battle against common colds.

7. *Daily physical exercise.* Daily exercise in the open air is a part of the price which must be paid for a constitution strong enough to exist above the *chronic cold line.* Nothing else will take the place of exercise in the fight against colds. Muscular exercise not only improves the circulation, it also aids the digestion. Just as the sedentary life must be reckoned as one of the causes of colds, physical exercise, sunshine, and pure air, play an important role in their prevention and treatment. Physical exercise promotes the activity of the sweat glands and very generally aids the process of eliminating numerous poisons by thus encouraging the natural functions of the skin.

No exercise can be superior to brisk walk-

ing in the open air, with the head erect, chest forward, abdomen tense, arms swinging — in fact, every muscle in the whole body thoroughly energized. All forms of outdoor exercise will be found beneficial, whether it be horseback riding, useful employment, tennis, or skating, provided such exercises are not carried to injurious extremes.

8. *Hygiene of the bowels.* It seems highly probable that in chronic constipation certain poisons are absorbed from the bowel tract, and circulate through the body, irritating the mucous membranes of the nose, throat, and lungs, and predisposing the victim to colds, catarrh, sore-throat, bronchitis, and even asthma.

It has long been known that clergyman's sore-throat was largely caused by sour stomach and indigestion. It would seem that these bowel poisons further favor the taking of colds, by their irritating effect upon the small blood-vessels of the skin, causing them spasmodically to contract, driving the blood from the surface of the body into the internal organs, thus causing the skin to be especially subject to

the action of draughts and other chilling influences.

The victims of chronic colds, in the vast majority of cases, are found to be suffering from *pale skin*. They are usually anæmic in appearance. Their pale skins and their colds are due to one and the same cause, that is, autointoxication or chronic self-poisoning, resulting from indigestion or constipation.

The hygiene of the bowel plays an important role in the prevention and treatment of acute colds and chronic catarrh. The author has seen numerous cases of catarrh, bronchitis, and even asthma, which had resisted every other effort at treatment, gradually disappear after indigestion and constipation had been either improved or removed. Every effort should be made to regulate the bowels without the use of drugs. The liberal and persistent use of fresh fruits and certain of the dried fruits, such as figs and prunes, together with green vegetables, will usually be found effective in overcoming ordinary cases of constipation.

9. *The question of diet.* A certain class of

sufferers from chronic colds, after having taken all the precautions here enumerated, will still find themselves unable successfully to resist colds. The author was subject to severe and frequent colds when younger, and suffered greatly from nasal catarrh when a youth. He was unable to obtain relief from this annoying affliction, although he faithfully practised many of the procedures herein described and recommended.

There came a time, however, in the pursuance of certain dietetic investigations when he decided to subsist upon the modern *low-protein diet,* that is, a diet that largely excludes meats, cheese, and beans. This was many years ago, long before the renowned work of Professor Chittenden of Yale University, who recently called attention to the fact that the American people commonly consume from two to three times the amount of protein required to keep the body in good health and good repair.

After subsisting for several months upon this low-protein diet, in connection with more thorough mastication of the food, it was discovered that he suffered much less from colds than

formerly. Not only was there a great improvement in general health, and an increased ability to endure both mental and physical strain, but also the former tendency to take cold on the slightest provocation had almost disappeared. In connection with other simple measures, the low-protein diet was continued, and a period of seven years was passed without contracting more than a single cold, to say nothing of freedom from former experiences of having the grippe once or twice each winter.

It is needless to say that this personal experience has been confirmed in the case of scores of patients. In fact, the low-protein diet with proper attention to the hygiene of the bowel, constitutes a part of his regular regime in the treatment of recurrent colds and chronic nasal catarrh.

In this connection it may be well to remind the reader that when protein is eaten in excess, the unused portion cannot be stored in the body, nor can it be promptly and harmlessly eliminated as in the case of excess of starch, sugar, and fat. The end products of the digestion and splitting up of protein are acid

in nature and it seems highly probable that they are indirectly concerned in producing a bodily state which greatly favors the taking of cold.

Conditions of the blood bordering on acidæmia, that is, the presence of certain acid-like products of indigestion and metabolism in the blood, seem to predispose many individuals to taking cold; at least there are vast numbers of people who do not seem to be able to rise above the zone of chronic colds, until their system is rid of these irritating poisons.

It should be remembered that while deficient elimination of the natural wastes of the body tends to increase these acid poisons in the circulation, the larger portion of such irritating substances is derived from the excess of protein taken into the body with the daily food. It would, therefore, be advisable for sufferers from chronic colds to eat less meat and take more of the fresh fruits, cereals, vegetables, etc. Tea and coffee might also profitably be restricted.

The following table includes the majority of the high-protein foods, at least those in which

the proportion of protein is unduly high as compared with the various other food elements. The percentage of protein is given, also the total nutritive value. The foods richest in protein are named first, that is, those containing the highest percentage of protein. It is not advisable that the total amount of protein eaten should constitute more than ten per cent of the total nutritive value of the food consumed.

Table of Foods High in Protein [1]

Name of Food	Percentage of Protein	Total Nutritive Value
Pinenuts	30.0	94.3
Beans, dried	26.9	85.0
Lentils, dried	25.9	88.0
Cheese	25.2	61.1
Ham	25.0	71.5
Turkey	24.7	34.4
Peas, dried	24.6	89.7
Roast beef	22.9	29.1
Salmon	21.6	35.6
Almonds	21.1	91.2
Peanuts	20.7	91.5

[1] For complete food tables and full consideration of the protein factor in diet, the reader is referred to "The Science of Living," from which this table is abstracted.

Name of Food	Percentage of Protein	Total Nutritive Value
Butternuts	20.0	91.9
Beefsteak	20.0	24.0
Veal	19.0	23.0
Chicken	18.5	27.5
White fish	18.1	22.0
Mutton	17.1	23.4
Walnuts	16.7	91.6
Pork chops	16.0	23.5
Filberts (Hazel nuts)	15.6	90.5
Hickory nuts	15.5	90.5
Eggs	14.0	27.2
Oysters	6.0	11.7

Certain strong individuals with a vigorous circulation, are able to ignore with impunity practically all these suggestions, and yet live comparatively free from colds. They can do this for the same reason that others can drink immoderately, smoke, or indulge in other violations of natural laws, suffering no apparent serious consequences. But we are interested in helping that vast army of men and women who are trying to live above these health-destroying habits; who are struggling to gain the highlands of health, and who are fighting

to escape from the bondage of chronic disease. In their battle for health they need every possible assistance to enable them to maintain a mental and physical attitude that will place them on vantage ground in their incessant struggle with the germs of colds and other infections.

10. *Faith, courage, and optimism.* The mental attitude, because of its influence on digestion and the circulation, is greatly concerned in the cause and prevention of colds. Men of courage and women of faith are not, other things being equal, so predisposed to colds and other infectious ailments as are the downcast and despondent victims of fear and grief. Optimism is of real value in the battle against chronic colds.

The successful man, the one who lives the triumphant life, the man of victory, as a rule, is comparatively free from colds and numerous other little annoyances which so frequently attack the downhearted and downcast. Nevertheless, when all is said and done, that person is a rare curiosity who can for many years escape falling a victim to some cold of more or less severity. But it does lie within our

power to prevent very largely the constantly recurring colds which so surely undermine our vitality, destroy our happiness, and in general, make our lives miserable and unprofitable. Having done your full duty to prevent and avoid colds, exercise faith, be optimistic, hope for the best, and success will be yours.

CHAPTER V

THE GENERAL TREATMENT OF COMMON COLDS

PROMPTLY EMPTY THE BOWELS.—BRING THE BLOOD TO THE SKIN.—DRINK HOT LIQUIDS, AND SWEAT.—THE DIET FOR COLDS.—FRESH AIR, BETTER COLD.—THE QUESTION OF EXERCISE.—ABOUT SUMMER COLDS.

IN considering the treatment of common colds, it will probably be best first to take up certain general procedures which are appropriate for all classes and stages of this annoying complaint. There is no sure cure or royal remedy for colds. After these general considerations, we will take up the treatment of a cold in its three different stages. No greater mistake can be made than to treat colds with the conventional indifference. The physician of to-day does not advise his patients as did a certain old-time practitioner, who, when asked how he would treat a cold, re-

plied: "With contempt, madam, with contempt." All ordinary colds should be managed after the following general plan.

1. *Promptly empty the bowels.* From the previous discussions respecting the cause and prevention of colds, it must be evident that constipation and overloading of the bowel is associated frequently with colds and other acute diseases. The task of clearing out the intestinal tract consists of two distinct procedures.

At once take an active cathartic, such as a large dose of epsom salts (one or two tablespoonfuls, according to the individual's susceptibility), or, in the case of children give two doses of castor-oil about one hour apart. But even the action of a vigorous cathartic should not be depended upon entirely; in addition, the colon or lower bowel should be thoroughly washed out with warm soap-suds enemas. Castile soap or even common toilet soap will suffice for this purpose. These enemas may be given at a temperature varying from 100 to 104 degrees F. Each enema should consist of one to two quarts of water. The fountain syringe containing the water may

be hung four or five feet above the floor — not higher than the top hinge of an ordinary door. After about a pint of water has entered the bowel, a crampy sensation is usually experienced. If the rubber tube supplying the water be compressed for a few moments, these cramps will disappear, and the entire bagful of water can be easily taken.

The important thing about cleansing the bowel when one is coming down with a cold is to wash it out thoroughly, repeating these large, warm, soap-suds enemas two or three times or even more if necessary, until the water of the last enema returns from the bowel comparatively clear and free from fecal matter.

In order to dissolve and properly remove matter from the intestinal tract, hot water is required, but it should be remembered that this hot water always weakens the intestines and predisposes to constipation. This is why people who regularly depend upon the enema to empty the bowel soon acquire the *enema habit.* How can this be avoided? Very easily: by simply allowing a pint or a pint and a half of cool water (75 to 85 degrees F.) to enter the

bowel after the last warm enema. If no inconvenience is experienced the cool enema may be retained in the bowel. This cool enema will tone up the bowel and almost entirely counteract the debilitating effects of the preceding hot injections. In case of an irritable bowel, it is sometimes wise to add a teaspoonful of salt to this concluding cool enema.

2. *Bring the blood to the skin.* The blood-vessels of the skin are able to hold from one-third to one-half of all the blood in the body. In the first stage of a cold, the skin is usually pale, rough, and cold. The hands and feet are usually cold. Chilly sensations play up and down the spine. The next important step in the general management of all colds, is to induce the blood to return to the skin. The patient must be kept warm, but this should not be done at the expense of fresh air, or by overheating the atmosphere of the room. It should be done by putting on extra clothing, or by going to bed with a hot water bottle after the bowels have been thoroughly cleansed.

For the purpose of heating up the skin, a vapor bath may be taken, such as can be had in

an ordinary portable bath cabinet with an alcohol lamp. (See Fig. 4.) The ideal private bathroom of the future will probably contain an electric-light bath cabinet, as the electric-light bath is undoubtedly the ideal sweating procedure in breaking up colds.

But in the absence of any or all of these appliances, an ordinary hot tub-bath may be taken, with cold cloths on the head; or the patient may be wrapped up in a blanket wrung out of boiling water, with two or three dry blankets wrapped about the outside, and all these surrounded by hot water bottles or glass jars filled with hot water. This *hot-blanket pack* makes almost an ideal sweating procedure, after which the patient should be thoroughly rubbed with cold water or ice-water and sent to bed. In giving this cold-water rub, only a small portion of the body, such as one arm, should be exposed at a time. *Don't forget that this cold ending is an essential feature of all these hot sweating-baths.*

3. *Drink hot liquids, and sweat.* When taking a cold, drink abundance of hot water or hot lemonade. Put the feet in very hot

water, and sweat; or if some sweating-bath is given, drink hot lemonade in connection with the bath. If there is headache, apply cold compresses over the head, and, if necessary, around the neck.

In case of all colds, cut down the solid foods and increase the liquids. The patient, as a rule, will not relish much water, but will readily take vast quantities of hot or cold lemonade.

In giving any form of sweating-bath, care should be exercised to see that the bowels are thoroughly cleaned out before an effort is made to sweat the patient. Plenty of drinking water should also be supplied before and during the sweat. Don't forget to keep the patient's head properly protected by generous cheesecloth compresses or by a linen towel wrung out of ice-water; and it is a good plan not only to place this cooling compress over the forehead and on top of the head, but also to see that it is wrapped around the neck.

In giving the finishing cold treatment which must invariably follow all sweat baths designed to break up a cold, the patient may be

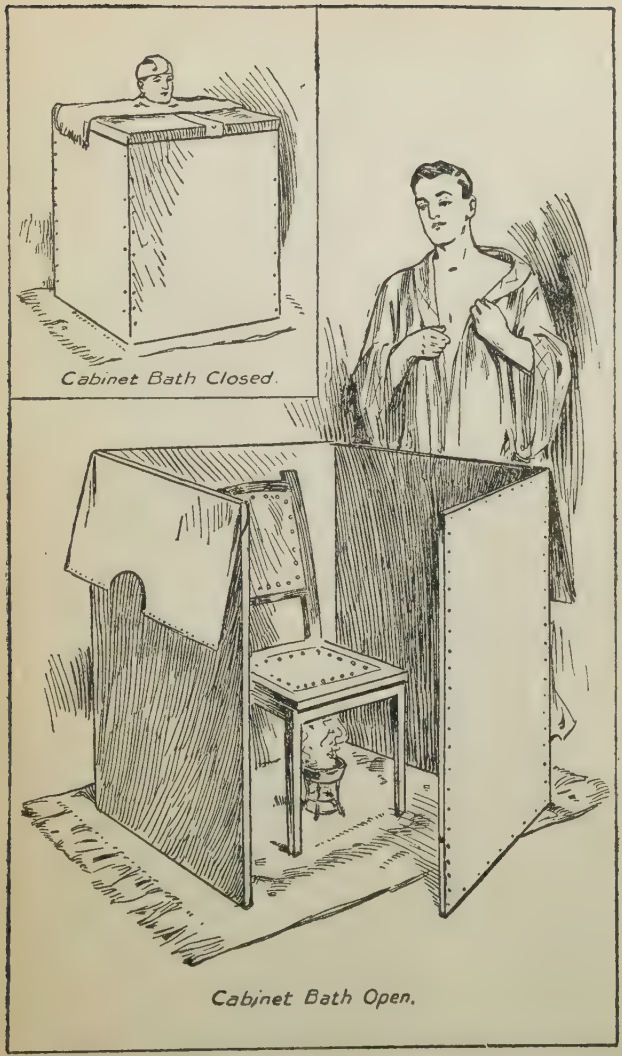

FIG. 4. Taking sweat Baths in a Portable Cabinet Bath.

briskly rubbed with cold water (better ice-water) by means of the bare hand. A still better method of giving this cold terminal treatment is by means of a friction mitt, such as can be made out of rough mohair cloth or from Turkish towelling. In this way the beneficial effects of friction are added to the good effects of the cold water, both tending to produce a vigorous skin reaction; that is, both tending to bring a large volume of blood quickly to the skin, and thus relieve the internal congestion of the mucous membrane.

4. *The diet for colds.* The old adage, which said, "Starve a fever and stuff a cold," is like many other of the old, time-honored sayings —it is utterly false. The truth of the matter is, that a cold is essentially a fever. It frequently is accompanied by an actual rise of temperature. A cold is almost invariably caused by infection. When it does not produce a fever, it is because the body is able successfully to cope with the invading microbes, or because the disease is light and local.

Nature, as a rule, completely takes away

the appetite when one is taking a cold or other infectious disease; and Nature is wise. Don't coax Mary to eat when she has a cold. Don't allow the neighbors to tempt Johnny with calf's-foot jelly or other dainties.

When one is suffering from a cold, the digestive organs are in no condition to care for food. The digestive juices are altered, or entirely absent. One or two days' comparative fast will often assist in averting a severe siege of cold. A more convenient and enjoyable form of fasting would be to subsist for one or two days upon fruit or fruit juices, perhaps with the addition of a little toast. An exclusive fruit diet has all the practical advantages of complete fasting, while it satisfies the appetite and supplies fruit sugar, from which the liver can manufacture glycogen to sustain the white blood corpuscles in their continuous warfare against microbes.

When one fasts for a day or two the system undergoes a spring housecleaning. Food is the fuel of the body, and when it is temporarily withheld, nature begins to skirmish around and burn up a lot of refuse and garbage which

has been allowed to accumulate in various parts of the body. The presence of these waste products and acid poisons is indirectly concerned in producing colds, and their destruction or removal from the body can but aid in the treatment of common colds.

The advantages of a fruit diet in connection with colds may briefly be stated as follows:

a. Fresh, unsweetened fruit juices require no digestion; they are all ready for immediate absorption and assimilation; they have been fully and perfectly digested in nature's own laboratory by the powerful rays of sunlight; and since the digestive apparatus is always wholly or partially deranged during an attack of cold, it is evident that fruit and fruit juices constitute an ideal food for the victims of colds.

b. Colds frequently result from overeating of protein. Fruits contain practically no protein, and are accordingly a perfectly desirable and safe food in that respect.

c. Fasting is altogether desirable in the early stages of a cold, but for a single fact — that is, fasting soon reduces the supply of glycogen (stored sugar) in the liver. Now, this gly-

cogen is the chief food of the leucocytes — the white blood corpuscles — and these little fellows constitute the body's standing army of defence against all forms of infection. Fruits and fruit juices exactly supply the fruit sugar which is immediately available for the proper nourishment and sustenance of the leucocytes, without in the least overtaxing the crippled digestive powers or in any way adding fuel to the smouldering fires of infection.

d. Lemonade and fruit juices encourage the taking of a large amount of liquids and that is altogether desirable in the case of all who are taking a cold.

The fruit juices also increase the alkalinity of the blood, thereby greatly encouraging the activity of the white blood cells and lessening the tendency to succumb to infection.

5. *Fresh air — better cold.* In the first stage of a cold, especially if the lungs are threatened, follow the preliminary treatment of skin and bowels, by putting the patient to bed with a hot bag to the feet; comfortably cover him, and throw the windows wide open.

Don't neglect fresh air in the treatment of colds. Many cases of pneumonia could have been prevented had the patient not been shut up in a stuffy room and forced to breathe foul air. It is important to keep him from chilling; the skin must be kept warm; but this should not be done by sacrificing fresh air. Freely ventilate the room and keep the patient warm and comfortable by artificial heat, using hot-water bottles if necessary.

6. *The question of exercise.* Some hearty individuals when threatened with a cold, are able to abort it by taking a long walk in the open air. This is a good idea, provided there is no fever, and the cold is taken early. In the case of weakened or only moderately strong persons, and where the cold has had a good start, it would certainly be unwise to attempt to break it up by such heroic measures.

In all these matters, common sense must be used. Debilitated patients must not presume to employ unreasonable measures in their efforts to break up a cold. Heroic procedures may prove successful when employed by rea-

sonably strong and robust persons, but they should be used very judiciously and carefully by those who are weak and run down.

ABOUT SUMMER COLDS

There is just as much danger of catching cold in the summer as in the winter. In some respects, more. The only reason we suffer more from colds in the winter, is that we live indoors more, and hence breathe more foul air. This probably explains why we have more colds in the spring of the year. We are more likely to catch cold because we have been more or less shut up indoors all winter. The ideal conditions for catching cold are found on a cool summer's evening, when the body is tired, the vitality is pretty well used up, and the skin and underclothing are slightly moist from perspiration. These are just the conditions for producing a disturbance of the circulation. Especially is it dangerous to ride in carriages or open cars on cool evenings without wraps.

Should you find any portion of the body becoming chilled, such as the back of the neck,

vigorously rub it or stiffen the muscles connected therewith. Draughts are especially dangerous at night when one is tired out and perspiring.

Summer sore-throat may be aggravated by taking large quantities of ice-water or ices, when the body is overheated or when the throat is congested from public speaking or singing. One should be particularly careful about lying down on the porch in the cool of the evening without suitable covering for the body. In general, a summer cold should be treated along the same lines as a winter cold.

CHAPTER VI

THE TREATMENT OF THE DIFFERENT STAGES OF A COLD

TREATMENT OF THE FIRST STAGE OF A COLD.—OIL THE NOSTRILS.—NASAL DOUCHING AND THROAT-GARGLING.—MASSAGE TO NOSE AND FACE.—THE HEATING COMPRESS CAP.—HEATING COMPRESS TO THE THROAT.—THE HOT FOOT BATH AND HOT DRINKS.

TREATMENT OF THE SECOND STAGE OF A COLD.—THE HOT BLANKET PACK.—THE COLD MITTEN FRICTION.—LIGHT FRUIT DIET.—KEEP THE SKIN ACTIVE.—REST IN BED.—LOCAL APPLICATIONS TO THE NOSTRILS.

TREATMENT OF THE THIRD STAGE OF A COLD.—CONTINUE GENERAL TREATMENT OF SECOND STAGE.—HOT FOMENTATIONS AND COLD MITTEN FRICTION TO THE CHEST.—THE HOT HIP AND LEG PACK.—THE CHEST PACK.

THE ordinary complaint which we commonly regard as a cold, in the majority of cases, runs a more or less definite course, passing through *three distinct stages*. The

first stage is sometimes very transient and the last stage is not always reached, unless the cold is severe and tenacious. The third stage, affecting the lungs, is more likely to follow colds which are neglected or otherwise mistreated.

The three stages of a cold are as follows:

1. The anæmic or dry stage,
2. The hyperæmic or moist stage.
3. The stage of continued congestion, affecting the head, lungs, etc.

1. TREATMENT OF THE FIRST STAGE OF A COLD

The first stage of a cold may be called the *dry* or *anæmic* stage. It is usually ushered in by a slight tickling sensation in the throat, or a dry state of the mucous membrane of the nose. One sometimes wakes up in the middle of the night with this dry condition of the nose and throat. Prompt treatment at this stage will often prevent further progress of the infection and successfully abort the cold. The proper method of dealing with this, the first stage of a cold, is as follows:

1. *Oil the nostrils.* The moment this dry-

ness of the nose is discovered, promptly and thoroughly anoint the nostrils with ordinary purified or borated vaseline. Where one is subject to these frequent colds in the head, he might use some oily spray, administering it to the nose by means of a common hand atomizer. If one would avoid colds, the mucous membrane of the nose must be kept moist — it must not be allowed to become dry and remain so for a very long period.

There are numerous satisfactory atomizers on the market, which can be used by those who suffer from frequent colds and who observe that such attacks are usually ushered in by dryness of the nose and throat. A very useful compound for use in the atomizer is the following oily spray:

Oil of eucalyptus	20 drops
Menthol	10 grains
Liquid paraffin	2 ounces

Dissolve and mix. Use in atomizer.

The reason this nasal dryness is experienced more in the autumn is due to the fact that winter air contains less moisture than the summer atmosphere; it, therefore, increases

the evaporation of the nasal secretions and results in producing increased dryness of the mucous membrane. If one especially suffers from this dryness during October and November, it might be well to anoint the mucous membrane of the nostrils slightly with a little borated vaseline upon going to bed; or use the atomizer with the oily spray.

2. *Nasal douching and throat gargling.* If simple oiling of the nostrils does not remedy the dryness of the nose, and if the throat is also affected, nasal douching by means of the old-fashioned method of snuffing warm salt water up the nose or by using the common little glass douche cylinder — allowing the water to enter one nostril and escape by the other — will be found valuable in connection with gargling with salt and water or Dobell's solution. (For formula, see page 57.)

It may be well to explain more fully just how to use the nasal douche cylinder, an illustration of which is shown in Fig. 5. The following directions should be followed when using the nasal douche: (See Fig. 6.)

Having filled the douche cylinder with the

proper solution, keep the index finger on the air inlet while the nozzle is placed well inside the nostril. With the head thrown well back and to one side, the patient raises the finger from the air inlet, and if the point of the nozzle is not too firmly pressed against the mucous membrane, the cleansing solution will begin to flow into the nostril. What becomes of the fluid when it has once entered the nostril depends entirely upon whether the mouth is kept closed or not. If the mouth is kept wide open and the patient keeps on breathing, the fluid will promptly flow out of the other nostril; on the other hand, if the mouth is kept closed, the fluid will find its way into the throat and into the ears, giving rise to undesirable and disagreeable results — results which are sometimes serious — leading to unnecessary and dangerous infection of the ears. *In using the nasal douche the mouth should always be kept open.* If the fluid does not flow freely from the douche, slightly withdraw the nozzle from the nostril and all will be well.

One of the best preparations for nasal douch-

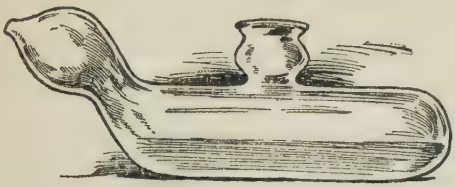

FIG. 5. *The Nasal Douche.*

FIG 6 *Taking Nasal Douche*

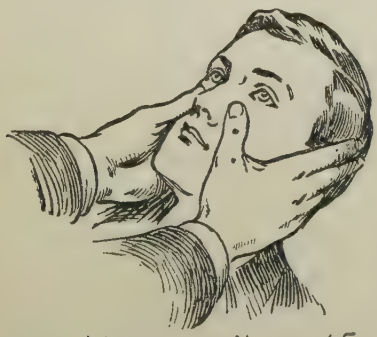

FIG. 7. *Massage to Nose and Face.*

Illustrations of Nasal Douche and Massage.

ing and throat-gargling with which the author is acquainted is the following:

Sodium bicarbonate	½	drachm
Sodium biborate	½	drachm
Sodium benzoate	1	grain
Eucalyptol	⅔	drop
Menthol	⅓	grain
Distilled water	8	ounces.

Dissolve and mix. Use frequently as nose wash and throat gargle.

Now, if the cold should prove to be the first stage of whooping-cough or any other contagious malady, this nose cleansing and throat gargling is just the very treatment to lessen the severity and to prevent undesirable complications. Of course, when the germs of colds or other infections have been allowed to develop unhindered for some time — when they have already got in their deadly work — it is well-nigh useless to attempt to thwart them by the mere use of douches and gargles. Other and more general curative measures must be promptly adopted.

3. *Massage to nose and face.* Vigorous rubbing of the nose and face for fifteen or

twenty minutes is a great help in this stage of a cold. (See Fig. 7.) This rubbing sometimes gives immediate relief from the annoying nasal dryness, producing an abundant flow of the natural secretions. Make sure that the feet are warm during this procedure. The electrical vibratory machines now so commonly used in barber shops are very useful when employed in the early stages of a cold; they greatly increase the circulation in the mucous membrane of the nose, and produce almost immediate sneezing, accompanied by a normal flow of the germicidal secretions of the nostrils, which at once destroys and washes away myriads of the mischief-making microbes.

4. *The heating compress cap.* Colds in the head may be frequently stopped by the following simple procedure, which requires nothing more than cold water and an ordinary rubber bath cap, such as ladies wear to prevent the hair getting wet while in bathing. (See Fig. 8.) This treatment is particularly adapted to boys and men, although it can be taken by women who do not have a superabundance of

hair. Massage and rub the scalp with the fingers frequently dipped in ice-water. Keep this procedure up for ten or fifteen minutes, until the scalp is wet and the hair slightly moist. Put a tight fitting rubber cap on over the head, carefully covering all the wet hair. (See Fig. 8.) This cap should be worn all night. Remove in the morning and administer thorough friction to the scalp with the fingers wet in ice-water. Thoroughly dry the hair and wear a skull cap throughout the day. This treatment will frequently relieve an annoying cold in the head, if it has not continued too long or become chronic; and provided there is not an infection of one of the many air chambers opening into the nose.

5. *Heating compress to the throat.* It will be best to describe this throat compress in sections, so that the reader may thoroughly understand how to prepare and apply the same. (See Fig. 9.) This compress is indicated in the early stages of colds, sore-throat, and tonsilitis.

a. Take a piece of linen cloth, one or two thicknesses — or cheesecloth four or five

thicknesses — between three and four inches wide and about twelve inches long (long enough to go around the throat nicely and lap over). (See Fig. 9, a.) This is wet in ice-water or cold water, and is applied next to the skin and wrapped snugly about the neck. It should be wrung out of the water dry enough so that there will be no danger of dripping, but considerable moisture should be left in the cloth.

b. Over this piece of wet cloth wrapped around the neck, wrap a piece of mackintosh or oiled silk, the same in length and about a quarter of an inch wider, to make sure that the edges of the wet cloth underneath it are fully covered. (See Fig. 9, b.) In an emergency one can use newspapers, table oil-cloth, paraffin paper, oil silk, or any other waterproof material.

c. The third layer, or outside covering, should consist of one or two thicknesses of flannel about four inches wide, to be wrapped snugly around the neck and carefully pinned on with safety pins, so as to prevent evaporation of any of the moisture from the wet cloth

FIG 8.
The Heating Compress Cap.

FIG. 10.
Throat Compress on patient.

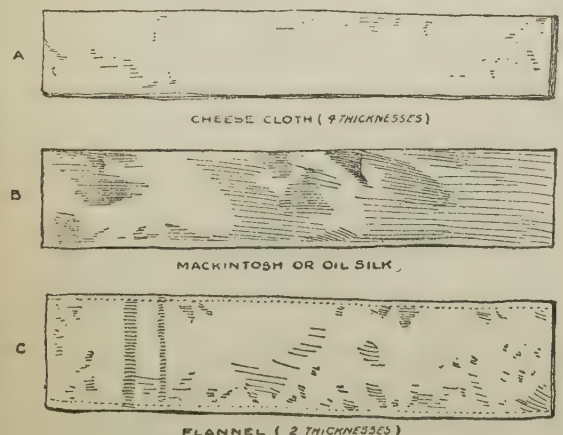

FIG. 9. *Parts of the Throat Compress.*

Illustrations of Head and Throat Compress.

next to the skin. (See Fig. 9, c.) This linen cloth next to the skin should be slightly moist when the compress is removed next morning, for it is intended that this throat compress should be worn all night. The compress in place is shown in Fig. 10.

This constitutes the best-known local and external treatment for incipient sore-throat, colds, pharyngitis, tonsilitis, etc., together with hoarseness and tickling of the throat. This compress should be put on at night, and when it is taken off in the morning, the throat and the back of the neck should be thoroughly rubbed, either with ice or ice-cold water and a rough towel, for about five minutes, and then carefully dried. *Do not forget this application of cold when the compress is removed in the morning;* it is absolutely necessary to prevent chilling of the throat during the day. If desired, a single thickness of dry flannel or a silk handkerchief may be worn about the neck during the day.

6. *The hot foot bath and hot drinks.* As an aid in equalizing the circulation, the hot foot bath, previously mentioned, is of great value

and should be accompanied by the drinking of an abundance of hot lemonade and by cold applications to the head.

II. TREATMENT OF THE SECOND STAGE OF A COLD

The second stage of a cold represents the *hyperæmic, moist,* or *congestive stage.* In contrast with the dryness of the nose and throat during the first stage, this stage is characterized by a moisture and a great increase of secretions from the mucous membrane. The nose is running, and the amount of mucus one pair of nostrils can secrete in an hour's time during this stage of an active cold is indeed phenomenal. If the disease has progressed to this stage, more vigorous and constitutional measures are required to combat it. In general, colds at this stage may be handled as follows:

1. *The hot-blanket pack.* (See Fig. 11.) If no more convenient form of sweating bath is available, resort to the hot-blanket pack in accordance with instructions given under the head of "The General Treatment of Colds."

(Page 75.) The patient may be kept in the pack, if the head and heart are not disturbed, anywhere from fifteen minutes to three-quarters of an hour, or until such time as he sweats profusely. If the heart is disturbed during the pack, it may be quieted by the application of an ice bag over the region of the heart for ten or fifteen minutes.

2. *The cold-mitten friction.* (See Fig. 12.) In all cases where the hot-blanket pack is given, it should be ended up with a *cold-mitten friction,* after which the patient is put to bed. The following is the proper method of giving the cold-mitten friction, which is one of the most valuable means of promoting skin-circulation. Make a loose-fitting mitt for the hand out of mohair cloth or Turkish towelling or any other rough fabric. Have two or three quarts of ice-water in a vessel by the side of the bed. Have the patient bring one arm out of the hot-blanket pack, and, after placing towels about the bed covering so as to avoid wetting the same, take the patient's hand in your left hand and with the mitt on your right hand, dip it into the ice-water, squeeze out some of

the water, and then vigorously rub the patient's arm. Repeat the procedure two or three times, if necessary, and continue rubbing until the skin of the arm is pink, and a good reaction is secured. Now, quickly dry the arm and cover it with dry towels or the dry blanket.

The whole body is gone over after this fashion, taking next the other arm, then the chest, the back, and then the legs, one at a time. This treatment is of great service in fighting colds, even without a long sweat before it; but it is usually best to administer first some sort of hot bath, to bring the blood to the skin, before giving this cold treatment.

3. *Light fruit diet.* During this stage of the cold, the diet should largely be limited to liquids, to fruits, or simple foods, such as toast. For a few days it will be well to avoid meat, milk, and eggs, as well as other nitrogenous foods, such as beans and cheese. Let the patient have all the oranges and fruits desired. The reader is referred to the discussion of diet in relation to the prevention of

colds (Page 63); and fasting or fruit diet in the general treatment of colds (Page 77).

4. *Keep the skin active.* At all hazards, the blood must be kept circulating in the skin, or we shall be compelled to face the dangers of the third stage of the cold — the congestion and inflammation of some internal organ. If the skin is rough and harsh, rub daily with cocoa butter or olive oil. The skin must be kept warm and active and this will be greatly aided by supplying the body with an abundance of liquids so as to encourage the normal action of the sweat glands.

Of course, such methods as nasal douching, gargling, and fresh air, as recommended for the treatment of the first stage of the cold, are all to be used as indicated, in the treatment of this, the second stage.

5. *Rest in bed.* When a cold has progressed thus far, it is usually unwise to undertake to wear it out, and it is hardly possible that it can be successfully broken up. It is far better to go to bed for a few days and give the system a fair chance to fight the enemy. It

is hazardous to go about one's work with a fever.

When the system is flooded with the toxins of cold or influenza germs, both the nervous system and the heart are placed under an extraordinary strain; and nervous disorders later in life, as well as heart failure, have no doubt had their foundations laid when their victims went on about their work, refusing to take time for rest, when suffering from a "bad cold" or a "little touch of the grippe." Both time and money are saved by a little judicious rest at such times. A few days' rest in bed may avert serious and painful complications later in life.

6. *Local applications to the nostril.* As a rule, sufferers from colds are more at ease if the atmosphere can be kept slightly moist. Steam inhalation is very acceptable as a rule. One should be careful not to wash out the nose with cleansing solutions when there are great swelling and severe infection — it might result in infecting the ears. There is great danger from carelessly snuffing salt water up the nose during this stage of a cold. Under

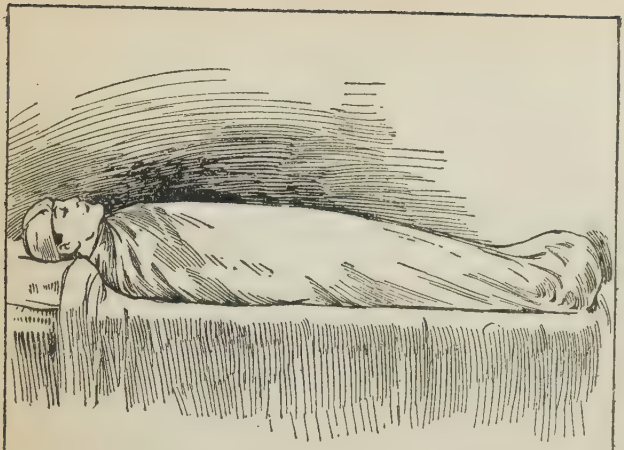

FIG. 11. *The Hot Blanket Pack*

FIG. 12. *Cold Mitten Friction.*

such conditions it would be best to use some kind of antiseptic and oily spray, by means of a small hand atomizer. The following prescription will be found very agreeable — considerably relieving the irritation and lessening the secretions:

Menthol	20 grains
Camphor	20 grains
Liquid vaseline	3 ounces.

Mix, and label: Use in atomizer as nasal spray.

Avoid using patent nostrums for cough medicines. Use the will-power in controlling dry, hacking, unproductive coughs. An excellent cough-reliever is obtained by inhaling the fumes of a steaming dish of water in which one-half teaspoonful of compound tincture of benzoin has been dissolved.

When the throat is unusually sore, it may be painted or swabbed with a ten-per-cent solution of argyrol. Don't fail to have a competent physician examine all cases of sore-throat — especially in children — to make sure that the case is not one of diphtheria.

III. TREATMENT OF THE THIRD STAGE OF A COLD

Ordinary colds which have been allowed to progress usually continue to the point where the air spaces in the head or some internal organ are more or less affected. As a result of the blood leaving the skin, the internal organs of the body are more or less congested. It may be the throat, the lungs, the ear, or some of the air spaces in the skull (giving rise to chronic colds in the head), or it may be some organ not connected with the respiratory tract, such as the intestines or the kidneys. It is quite a common experience for young boys to have diarrhœa following their first attempt to go bare-footed in the spring. This is due to getting the feet and legs chilled and causing a congestion of the abdominal viscera.

The treatment of the third stage of a cold becomes far more important and serious than the treatment of the two preceding stages. We seriously doubt the wisdom of anyone undertaking to treat this stage of a cold with-

out medical assistance. In fact, we believe it is a great mistake to neglect any serious cold or a case of the grippe, allowing these ailments to drift along without medical attention. The consequences of influenza are sometimes unusually serious. The further treatment of colds which have apparently settled in some part of the body, usually in the lungs, is as follows:

1. *Continue the general treatment suggested for the second stage.* In the third stage of colds, it is equally important to keep the blood circulating in the skin, to keep the bowels open, to give the same hot and cold treatment to the skin, to supply the body with an abundance of liquids, to keep up the light diet, and more particularly, to supply an abundance of fresh air and enforce absolute physical quiet.

The third stage of a cold usually involves the lungs, and is manifested by coughing, soreness in the chest, deranged breathing; it may vary in severity from a mild bronchitis to a typical pneumonia.

2. *Hot fomentations and cold-mitten fric-*

tion to the chest. In these cases of mild "cold on the lungs," it will be well to treat the chest both front and back by applying hot flannel cloths, wrung out of boiling-hot water, to the skin. These cloths should be about the size of a fourth of a single blanket, and wrung from boiling-hot water. These flannels should be thoroughly wrung out. A dry flannel cloth should be laid over the chest, the hot wet cloth being placed upon this, and the whole covered with another dry flannel cloth. For a fomentation to be effective it should be quite disagreeably hot. Just as soon as it feels warm and comfortable it should be changed and a new hot cloth applied. After three or four of these hot applications, the chest should be vigorously rubbed with cold or ice-water, as before described, under the head of the "cold-mitten friction." (See page 95.) The same treatment should be given to the back of the chest, and may be administered three or four times a day, when the lungs are tight or stopped up. Always begin with the hot cloths and end with the cold friction.

4. *The hot hip-and-leg pack.* This treat-

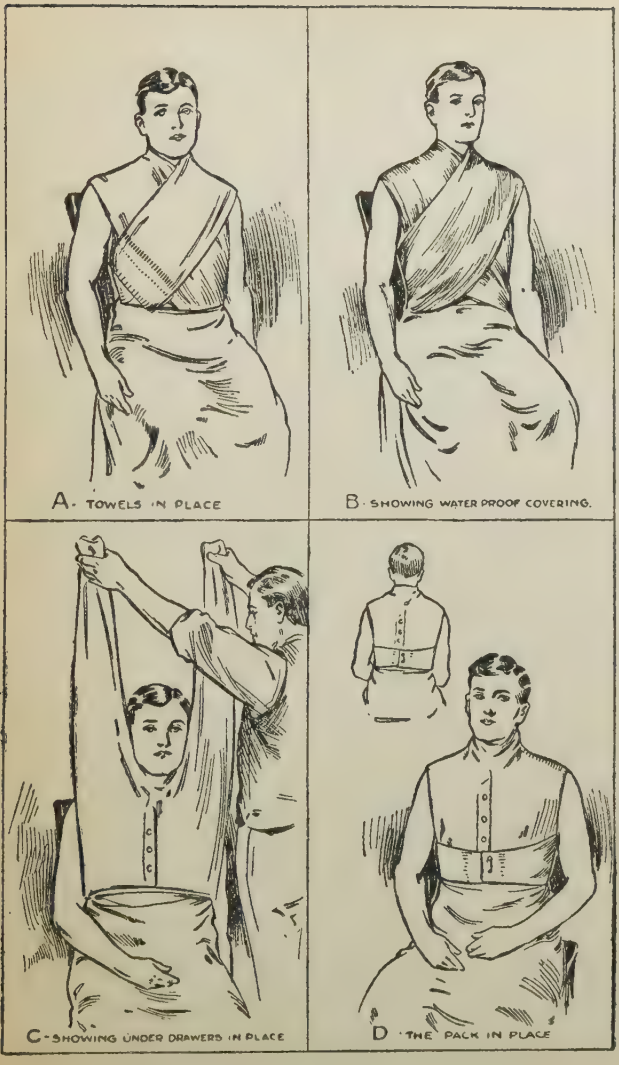

Fig 13. Method of putting on chest pack.

ment is very useful in relieving congestion of the lungs. Even in the treatment of regular pneumonia, the author depends upon this procedure as much as he does upon other treatments which are given directly over the lungs. This pack is given after the same methods described for the full hot-blanket pack, only it does not take in the chest and arms. It covers the legs, hips, and the lower part of the abdomen. (See Fig. 11.) This treatment greatly enlarges the blood-vessels of the lower extremities and directly drains the blood away from the head and chest to the hips and legs. It is well to give the hip-and-leg pack in connection with the hot and cold treatment of the chest, as this represents an ideal combination to relieve congestion of the lungs.

5. *The chest pack.* At night before the patient retires, if the lungs are "tight," the chest pack may be applied as follows: (See Fig. 13.)

a. Take two ordinary towels, wet them in ice-water and wring until quite thoroughly dry. Place one over each shoulder, allowing it to come down diagonally across the chest

and likewise across the back. (See Fig. 13, a.)

b. Have in readiness for this time, a jacket made of oil silk or mackintosh cloth, or some other waterproof material like ordinary table oil-cloth — which can be quickly pinned over the patient's chest, front and back, coming well up over the shoulders, so that the entire chest is thoroughly covered, making a snug fit around the neck and both arms. (See Fig. 13, b.) All this should then be covered with a flannel jacket made out of two thicknesses of blanket, or, with what is more convenient — two pairs of ordinary underdrawers. (See Fig. 13, c.) Placing the body of one pair of drawers over the chest, draw the legs over the shoulders, cross them at the back, after which they are drawn forward around the sides and pinned to the trunk in front. The other pair of drawers has its trunk placed over the back, the legs brought forward over the shoulders, crossed over the chest, and carried around the sides backward to be pinned at the back. The pack in place — complete — is shown in Fig. 13, d.

The wearing of this chest pack during the night will often serve to loosen up a bad cold on the lungs, and two or three nights will suffice to cure some of the worst of colds which have settled on the lungs. On taking this chest pack off in the morning, *the chest and back should be rubbed thoroughly with ice-water and very carefully dried.* This is important and under no circumstances must it be neglected. A thin extra shirt may be worn during the day, and it is well to anoint the chest with cocoa butter or a little vaseline.

The further treatment of the third stage of a cold entirely depends upon its seriousness and persistency, and detailed directions cannot be fully or safely given here, as the treatment of serious inflammations of the lungs and other internal organs following severe colds, is of serious importance. They are matters belonging entirely to the attending physician.

CHAPTER VII

ADENOIDS AND THE TONSILS

WHAT ARE ADENOIDS?—THE CAUSES OF ADENOIDS.—SYMPTOMS OF ADENOIDS.—OBJECTIVE SYMPTOMS OF ADENOIDS.—SUBJECTIVE SYMPTOMS OF ADENOIDS.—THE REMOVAL OF ADENOIDS.—THE TONSILS; TONSILITIS.

WE have previously considered adenoids as one of the predisposing causes of frequent and recurrent colds, but adenoids and also the tonsils, especially in the case of children, are deserving of more than passing notice.

WHAT ARE ADENOIDS?

It is entirely appropriate to study adenoids in connection with the tonsils and tonsilitis, for, in reality, adenoids are but a hypertrophy or enlargement of a certain small tonsilar body or lymph gland, known as the *pharyngeal tonsil.* This little body, for it is indeed quite

small when not enlarged by disease, is located in the middle line on the roof or vault of the throat directly behind the nostrils and just above the soft palate. It directly covers the opening of a minute canal which leads from the throat up to the region of the pituitary body at the base of the brain.

The purpose of this little tonsil in the roof of the throat is practically unknown to medical science. In fact, the function of even the larger tonsils in the throat still remains more or less of a physiological mystery. All this tonsilar tissue can be taken out of the throat without producing the least discoverable effect on the health of the patient.

When this little pharyngeal tonsil is irritated or inflamed, its peculiar structure permits it to enlarge and extend until it may completely fill the vault of the throat, and so effectively stop up both nostrils as to render it impossible for any air to find its way through the nose to the lungs. This condition of affairs compels its victims to develop into mouth-breathers.

The very location of adenoids at once sug-

gests great possibilities for mischief. They are in position to interfere seriously with breathing, and when their infectious secretions drop down into the throat, they are able to derange digestion and disorder the bowels. They also occupy a position which enables them to affect the important special senses of smell, hearing, and taste.

THE CAUSES OF ADENOIDS

In early infancy, the pharyngeal tonsil, from which adenoids always develop, is a very tiny and insignificant structure, composed of tonsilar or lymph tissue. It is found to obey the general laws of lymph tissue; and one of the peculiarities of this particular tissue, especially in the case of children, is that the presence of germs or bacterial toxins invariably produces hypertrophy, enlargement — enormous overgrowth.

Adenoids may make their appearance at any age. They are commonly observed in children from five to fourteen years of age, but in many instances they make their appearance in the first or second year of life; even children but

a few months old have been found to have adenoids. Adenoids of sufficient severity to affect the health of the child are probably found in but a trifle more than five per cent of the children, certainly not over ten per cent; while in the case of deaf mutes, it is found that over seventy per cent are afflicted with adenoids. This fact alone is a strong suggestion as to one of the potent causes of deafness.

It is highly probable that the pharyngeal tonsil may be first irritated and thus started on its career of mischief-making, by the severe throat irritations and infections which almost invariably accompany the various diseases of childhood. The throat is usually severely inflamed in scarlet-fever, measles, diphtheria, etc., and it is not unlikely that these diseases prove the starting-point for adenoids; at least in many cases this is undoubtedly the real exciting cause of this troublesome disorder.

In other cases it is probable that adenoids make their appearance following several severe and persistent attacks of the "snuffles"— neglected colds; and so while adenoids often may

be responsible for colds in the child of eight or ten years of age, it is highly probable that a succession of colds in the head earlier in life was directly responsible for the adenoids; and for this reason, if for no other, colds in babies and young children should never be neglected. Their colds should be antiseptically and intelligently treated, and not be allowed by neglect to set in operation inflammations of the throat, which are almost sure to end in the production of a liberal crop of adenoids.

While adenoids are not hereditary, they often appear to be a family characteristic, and it is quite likely that certain characteristic features running through one family for successive generations owe their facial peculiarities to the early development of adenoids, which in turn, are responsible for certain characteristic formations of the nose, face, etc. Climate plays but a small part in the causation of adenoids. It seems to be largely a question of the general health of the child and certain local irritations and inflammations of the nose and throat.

THE SYMPTOMS OF ADENOIDS

It is important that parents, guardians, and teachers, as well as physicians and nurses, should be well informed concerning the symptoms of adenoids, that they may be early detected and promptly removed, before permanent injury has been done to the features, mind, and health of the child. The symptoms of adenoids may be divided into two great classes: the objective symptoms, that is, signs which the parent or physician can observe in the child; and the subjective symptoms, that is, the manifestation of the disease which the child himself experiences.

1. *Objective symptoms of adenoids.* First and foremost, adenoid children are mouth-breathers. The mouth is constantly open to some degree, and it is of little use everlastingly to admonish these children to stop breathing through their mouths. A healthy child will never breathe through his mouth, unless the nose is or has been stopped up. And so mouth-breathing is the chief and characteristic evidence of adenoids.

The facial expression is characteristic. The child exhibits more or less a vacant stare, a listless look in the eyes. Because of the under-development of the upper jaw, the upper lip is usually thick and short, while the under jaw, being larger in proportion, protrudes somewhat outward.

The adenoid child is usually regarded as stupid. This mental stupidity and inattention to its surroundings probably results from a dulling of the hearing; and the hearing has been injured by the extension of catarrhal inflammation from the adenoids lying about the mouth of the Eustachian tube down through the tube to the ear. The Eustachian tube presents a direct channel of communication between the throat and the ear, its purpose being to equalize air pressure in the ear. Its presence is indicated by the feeling of escaping air in the ear when one makes a quick elevator trip from the top to the bottom of a high office building.

These children are always under-sized, pigeon-breasted, several inches short for their ages, and five to ten pounds under the average

weight. They suffer from general backwardness, and are usually two or three grades behind other children of their own age in their school work.

They soon develop high-arched palates, and narrow-pointed noses. These deformities are due to the fact that nature makes no effort to preserve useless structures. Accordingly, when the adenoids stop up the nostrils, and the nose ceases to functionate as a breathing organ, nature proceeds to enlarge the mouth upward, encroaching, more or less, upon the nose; and this change in development not only accounts for the peculiar, narrow face of the adenoid victim, but also accounts for the crowding of the teeth and production of the prominent and irregular appearance of the teeth, together with the pinched and contracted nostrils.

The voice is muffled, the resonance diminished. The tone is dull and dead. The breath is fetid and disagreeable, resulting directly from the festering mass of adenoids in the throat, and indirectly from the stomach disorders which always accompany this deplorable state of affairs.

These children are slow to respond to commands, and dull in following directions, not only because of the stunted mental growth, but also from the fact that they are usually hard of hearing, and their perception has become more or less dulled because of this.

In a child possessing the symptoms of the foregoing picture (see Fig. 14.), the physician never fails to find adenoids upon inserting the examining finger into the vault of the pharynx.

2. *The subjective symptoms of adenoids.* The symptom which the child himself first experiences is a loss of appetite. He complains of a bad taste in his mouth, the sense of smell is considerably impaired, he loses more or less of his relish for his former favorite dishes, and becomes subject to numerous and frequent attacks of biliousness and stomach trouble, followed by marked distention of the abdomen.

The child soon presents evidence of a chronic nasal catarrh, and if old enough, complains of constant dripping of mucus down into the throat; and, if above five or six years of age, is found constantly hawking and spitting to

FIG. 14.
A Child with Adenoids.

avoid swallowing these adenoid-secretions. About this time he may be subject to frequent slight attacks of fever. These spells of fever may be due to the disturbances going on in the stomach and bowels, or they may result from the absorption of an unusual amount of the poisonous toxins of the bacteria which live and thrive in this festering mass of adenoid tissue.

The child soon begins to lose all interest in both work and play, and only with difficulty can the attention be concentrated on any one thing. He seems to have lost his powers of concentration. He is extremely restless through the day, fretful and peevish, and manifests a tendency to go from one thing to another. At night he is exceedingly restless, rolling and tossing about in bed and constantly throwing off the covers. He is frequently disturbed by night terrors, and in many cases, these children when young, are victims of nocturnal enuresis — wetting the bed at night.

Direct infection of the ear — manifested by frequent attacks of earache — makes its appearance, and the entire mental development of

the child is arrested, often the speech becomes defective, and such a complete change in the facial expression is produced, that, unless the adenoids are promptly removed, the lines of this facial deformity may be carried throughout life. This, then, is the picture of the adenoid child — a picture which should alarm any parent and lead to quick remedial efforts.

THE REMOVAL OF ADENOIDS

Attention has been called to the fact that adenoids are located directly over the mouth of a minute canal which leads from the roof of the throat up to the pituitary body at the base of the brain; and it has been suggested that many of the marked effects of adenoids upon the mind are produced by the influence of the poisons which may pass up through this canal to the brain.

It is a well-known fact that this little pituitary body exerts a very profound influence upon the physical development, and it may also be discovered that it directly influences mental development. Enlargement of the pituitary body produces the well-known disease

of over-development called *giantism,* and it is also responsible for another form of overgrowth affecting certain parts of the body and known scientifically as *acromegaly.* It has long been known that diminution of the pituitary body resulted in producing dwarfs. This little body also secretes substances which exert a very direct influence in raising and lowering the blood pressure.

It is nothing more or less than criminal for parents and guardians knowingly to allow children to go along harboring these dangerous adenoids when a simple operation of but a few moments' duration will result in their complete eradication. We are aware that even some physicians have taught that if adenoids were not very bad, they could be left alone and that they would dry up or go away at puberty. But this is now known to be a false doctrine. Adenoids are not especially prone to go away at puberty. They may persist indefinitely; besides, when they are allowed to remain for several years, they result in producing permanent deformity of the face, jaws, etc.

Again, the fact must not be overlooked that adenoids are responsible for by far the majority of earaches, as well as the majority of the colds which appear in children suffering from these diseased growths. It must not be forgotten that more than two-thirds of all children having adenoids, have their Eustachian tubes involved, and, as a consequence, the ears are more or less diseased.

When the tonsils are enlarged, adenoids are nearly always present; but it does not follow that when adenoids are present the tonsils are always enlarged. The tonsils are enlarged in only about one-third of the cases having adenoids.

The operation for the removal of adenoids is such a slight affair, especially in young children, that its performance should never be postponed for a single week when the presence of these growths is detected. When adenoids are suspected, the child should immediately be examined by a competent physician, that the facts may be ascertained.

There is no operation in modern surgery, not excepting its most skilful procedures, which

can exhibit such a triumph in the line of immediate achievement and spectacular results as the simple operation for the removal of adenoids. Within a few short weeks following the operation, the child develops a good appetite, rapidly puts on flesh, takes a new interest in both work and play, sleeps well, exhibits marked increase in its powers of attention, becomes one of the brightest pupils in its class, the entire expression of the face changes — begins to beam with intelligence; the former listless child is now alert; the hearing, if it has not been permanently impaired, begins rapidly to recover; the fetid odor of the breath disappears; the digestive disturbances pass away; in fact, the transformation is so marvellous, so complete, and so sudden, that it proves conclusively that the poisonous excretions of the adenoid mass were being carried by the blood stream to every cell of brain and body, and, that as a result, the entire being was so saturated and steeped with these toxins as effectually to retard all development. Upon the complete removal of these festering sores, the young life takes on a new lease, and

begins to bud and blossom in a most astonishing and unexpected manner.

THE TONSILS; TONSILITIS

The larger tonsils on the sides of the throat, as far as our present knowledge goes, are just about as useless as the small tonsil in the roof of the throat, which is primarily responsible for the development of adenoids. When healthy, the tonsils may serve as a barrier to the entrance of germs into the system from the throat; when the tonsils have once become diseased, when they have passed through several attacks of inflammation, they become more or less permanently enlarged, and if they ever possessed a useful function, it is entirely lost. Such diseased tonsils are hotbeds for the development of microbes, and are a great menace to the health of both children and adults, and no time should be lost in bringing about their complete removal. (See Fig. 1.)

As previously suggested, merely clipping off enlarged portions of the tonsil, will not suffice; the entire tonsil with its capsule must be com-

pletely and carefully dissected out by a competent surgeon, as leaving in the throat small portions of the diseased tonsil is sure to give rise to further mischief in the future.

There can be little doubt that many cases of rheumatism, rheumatic fever, and even serious heart-disease in the case of young boys and girls, owe their origin to diseased tonsils. It is highly probable that the healthy tonsil, would be but little larger than a pea or, at most, a Lima bean; so it is evident that practically all cases of enlarged tonsils we see in children, youths, and adults, are more or less diseased and permanently hypertrophied. We cannot but believe that if some of the energy that has been spent in taking out the appendix had been devoted to taking out tonsils and adenoids, the race would have profited equally.

Diseased and enlarged tonsils, then, must be put in the same category with adenoids. They can only work mischief, and therefore should be promptly and completely removed. To retain them can only mean frequent colds, sore-throats, and possible attacks of rheumatism;

even the more serious complications of bronchitis, pneumonia, and tuberculosis are favored by the presence of these germ-breeding and germ-spreading diseased structures.

If the tonsil is sufficiently diseased to necessitate its removal, it is well to emphasize the importance of having it properly dissected out — enucleated. The older methods of tonsil-clipping, practiced one or two decades ago, are wholly unsatisfactory. If a tonsil is sufficiently diseased to necessitate its removal, it should be taken out in accordance with good surgical procedure — it should be enucleated — removed in its entirety, capsule and all.

CHAPTER VIII

INFLUENZA—*LA GRIPPE*

THE CAUSE OF INFLUENZA.—EPIDEMIC INFLUENZA.—ENDEMIC-EPIDEMIC INFLUENZA.—ENDEMIC INFLUENZA.—THE SYMPTOMS OF INFLUENZA.—THE DIAGNOSIS OF INFLUENZA.—COMPARATIVE SYMPTOMS OF INFLUENZA AND COLDS.—THE TREATMENT OF INFLUENZA.—GENERAL TREATMENT.—PAIN IN THE BACK AND IN THE LEGS.—HIGH FEVER.—SEVERE HEADACHES.—HOW TO COMBAT PNEUMONIA.—THE USE OF DRUGS.—CONVALESCENCE.

WHILE common colds are undoubtedly frequently caused by the Pfeiffer bacillus (the microbe of influenza), nevertheless, *la grippe*, as an epidemic disease, must always stand out separate and apart from colds. It is by far a more serious illness than the common household cold.

Influenza is an acute infectious disease accompanied by more or less fever. It spreads with extraordinary rapidity from town to town,

and from continent to continent, and is notorious in that it indiscriminately attacks such a large percentage of the population. It is a disease manifesting itself largely by inflammations of the respiratory mucous membranes, great and sudden physical prostration, and not infrequently by complications and inflammations in various internal organs and other parts of the body.

THE CAUSE OF INFLUENZA

In 1892, Pfeiffer discovered the bacillus which is now recognized as the cause of this epidemic disease. The germ is found both at the point of attack, as in the throat or lungs, and also in the blood. Unlike most other contagious diseases, influenza does not confer immunity upon its victims; that is, one attack of the disease does not render one unlikely to have a second attack; and in this way, influenza differs from scarlet-fever, measles, and numerous other contagious diseases.

Three distinct forms of influenza are now generally recognized. They are:

1. *Epidemic influenza.* This is the disease in

its most virulent form, and represents the degree of infection found in the great world epidemics, such as that which last visited this country in 1889-90. The disease made its appearance in the distant provinces of Russia in October, 1889; in November it was in Moscow; two weeks later Berlin was smitten; in the middle of December the disease appeared in London; by Christmas, New York had succumbed, and the infection was rapidly whisked over the entire continent. Within a year it had encircled the globe and had smitten the people of every clime.

2. *Endemic-epidemic influenza.* This is the form of the disease appearing for several years following the great world epidemics, and is a genuine influenza, although, as a rule, it is not quite so severe, and is not followed with such a large percentage of fatalities.

3. *Endemic influenza,* or so-called *catarrhal fever.* This is the milder form of disease, which, while it is caused by the Pfeiffer bacillus, is not nearly so severe as the preceding forms. It represents the disease which, when it is too severe to pass for a common cold, is usually

described under the terms of "the grippe" or "a slight touch of the grippe."

THE SYMPTOMS OF INFLUENZA

As a general rule, influenza proves to be an inflammatory disease of the nose, throat, and lungs; but not infrequently the poisons of these germs seem to localize in other parts of the body, giving rise to an entirely different type of the disease. As the respiratory type of the disease is by far the more common, we will give chief attention to the symptoms of that form.

Influenza usually makes its appearance about three or four days after one is exposed to the germs. As a rule, the first symptom is a sudden chill, accompanied by profound physical weakness — prostration. In the typical cases, where the nose, throat, and lungs are chiefly affected, there appears a profuse watery discharge from the nose. The dry stage of the nose and throat, comparable to the dry stage which precedes the moist or running stage in common colds, is usually very brief and sometimes unobserved in influenza.

Severe pain soon appears just back of the

eyes. There is also great pain in the back and in the legs: the pain is sometimes described as being in the bones; the patient literally aches all over. The fever is usually quite high, and the patient sometimes complains of intense general soreness.

The lungs are more or less affected, the patient begins to cough, and the sputum which is coughed up is of a characteristic greenish-yellow color and more or less lumpy. *La grippe* frequently runs into pneumonia, and these influenza pneumonias are exceedingly fatal.

The nervous symptoms of influenza, in addition to the pain already described and the profound and extraordinary prostration, may extend to the point of producing delirium; and in one form of the disease there may result an actual meningitis.

In rare cases, the poisons of the germs seem more to affect the bowels; in which cases there is nausea, vomiting, colic, diarrhœa, or even jaundice.

Influenza is the great disease of dangerous complications. While it spares the most of its

victims, and they apparently fully recover, it accomplishes its deadly work by weakening the system, undermining the vitality, and permanently crippling one or more of the internal organs.

Some victims of the grippe never fully recover the health of the lungs. They linger on for years with more or less of a chronic bronchitis, and eventually develop tuberculosis. In others the heart seems to be permanently affected. They live for years with weak hearts, and finally die of heart failure. Thousands die annually of influenza-pneumonia, pleurisy, etc. In other cases the disease is followed by severe diseases of the eyes and ears, while a not uncommon complication is nephritis or inflammation of the kidneys.

THE DIAGNOSIS OF INFLUENZA

Bad as are our common colds, and their consequences when neglected, influenza is by far worse. Under no circumstances should the layman ever assume the great responsibility of treating influenza. The best of medical assistance should be secured to assist in combating

this dangerous and treacherous disease. While we recognize that the average reader will probably not call a physician when but slightly suffering from an ordinary cold, we want to insist upon the necessity of calling medical help when smitten with influenza or the grippe, and to that end, we have prepared the following table, a parallel arrangement of the symptoms of a common cold and those of influenza, that one may be able to tell at once, and at a glance, the difference between the two ailments and thus be able to form a fairly accurate opinion as to the nature of his disease.

SYMPTOMS OF INFLUENZA OR *LA GRIPPE.*	SYMPTOMS OF A COMMON COLD.
1. *Onset:* Sudden — without warning or previous hint. Strikes as by an unseen hand.	1. *Onset:* Not so sudden; usually passes through a warning stage.
2. *Chills and fever:* Definite chills and marked fever. More or less sudden appearance of both.	2. *Chills and fever:* Chilliness rather than definite chills; fever not so marked, or absent — so-called inward-fever.
3. *Prostration:* Profound, sudden, and continued, out of all proportion to the other symptoms.	3. *Prostration:* Not so profound — merely a general weakness, just a general "good-for-nothing feeling."
4. *Coryza:* Watery discharge begins at once, little or no recognizable dry	4. *Coryza:* Comes on gradually, preceded by a dry

SYMPTOMS OF INFLUENZA OR *LA GRIPPE.*	SYMPTOMS OF A COMMON COLD.
stage preceding its appearance.	stage lasting from a few hours to several days.
5. *Sore-throat:* Not such a constant symptom, unless complicated by tonsilitis. General soreness; diffuse redness.	5. *Sore-throat:* Usually an early symptom, especially when tonsils are diseased. May begin with slight tonsilar soreness.
6. *Headache:* Usually severe, often in the eyes or at the back of the head; hard to control; often described as a "splitting headache."	6. *Headache:* Not so profound; eyes not so affected; usually in forehead or more to back of the nose; not always present. May be general.
7. *Backache:* Nearly always present — severe — characteristic.	7. *Backache:* Not usually present — only a feeling of weakness in the back.
8. *Pain in the legs:* Usually marked and severe.	8. *Pain in the legs:* Not usually present.
9. *Pain in the bones:* A characteristic pain of influenza.	9. *Pain in the bones:* The bones do not especially ache in colds.
10. *Temperature:* Fever runs high for several days — from 100 up to 105 degrees, or even 106 degrees, in severe cases.	10. *Temperature:* Fever absent or runs low; usually comes on more gradually and runs from 99 to 101 degrees.
11. *Sputum:* Usually a characteristic greenish-yellow, containing many coin-like lumps.	11. *Sputum:* Not characteristic; may vary in color and form — yellow, white, or mixed.
12. *Lung complications:* Lungs usually involved. Severe complications often make early appearance.	12. *Lung complications:* Lungs often not involved. Lung complications appear later — the third stage of a cold.
13. *Nervous symptoms:* Very marked. In some	13. *Nervous Symptoms:* Not prominent as a rule; not

SYMPTOMS OF INFLUENZA OR *LA GRIPPE*.	SYMPTOMS OF A COMMON COLD.
forms resembling meningitis. Patient usually restless and sleepless. In severe cases, delirium.	profound. Patient often rests and sleeps well, if nose is not completely stopped up.
14. *Influenza:* Travels more in epidemics, although it is ever present with us. It runs through a town or a nation.	14. *Colds:* May be contracted at any time; they are more local, although they may run through a family or a school.
15. *Sequelæ:* Leaves its victims prostrate. Is followed by lung, kidney, heart and nervous diseases. Results of a single attack may be lifelong. Patient remains greatly weakened for two or three weeks.	15. *Sequelæ:* Recovery from a single attack is more or less complete. More largely affects the nose, throat, lungs, and the sinuses. Repeated attacks usually required to produce serious after results.

Another reason for summoning prompt medical assistance in influenza is to make sure that the disease is properly diagnosed and not confused with cerebro-spinal meningitis; for in the early stages one form of the grippe is almost identical in its symptoms and general manifestations with the early stages of meningitis.

THE TREATMENT OF INFLUENZA

It is popularly supposed that there is very little to be done for the grippe; one must just go to bed and suffer; stick it out, and let the

disease run its course of a week or ten days. This is a great mistake. Not only can much be done to shorten the course of the disease and to render the patient more comfortable, but such treatment will also greatly assist in preventing subsequent inflammations and undesirable after-effects.

1. *General treatment.* Put the patient to bed and keep him there until the doctor authorizes him to get up; that is, until the disease is thoroughly eradicated. Stop all solid food, give only fruit juices and gruels for two or three days. Give plenty of water or lemonade, either hot or cold; a glass of liquid every one or two hours when the patient is awake, and oftener if he desires it.

At the onset of the disease, it is well to give a brisk cathartic such as a dose of castor-oil, followed in one or two hours by a dose of epsom salts. The bowels should be promptly and thoroughly washed out, by means of several large, warm, soap-suds enemas. (See page 72.)

Sweating baths followed by cold-mitten friction, as described under the treatment of

the second stage of colds, are also beneficial. (See page 95.)

Hot foot baths in connection with hot lemonade drinking, are valuable. (See page 93.)

Do not forget to isolate and quarantine influenza patients. All discharges from the nose, throat, and lungs, should be carefully collected and disinfected.

Keep the feet warm and the head cool: hot water bottles to the feet; cold cloths on the head.

2. *Pain in the back and in the legs.* These pains in various parts of the body may be relieved by very hot foot baths followed by cold-mitten friction. Pains are also greatly relieved by keeping the feet and legs thoroughly warm. They are sometimes greatly relieved by gentle rubbing or stroking.

3. *High fever.* The fever of the grippe is best treated by cooling wet-sheet packs, or by injecting of cold water into the bowel. The wet-sheet packs are given as follows: (See Fig. 15.)

An ordinary sheet is folded from either side

toward the middle (see Fig. 15-a) and then wrung quite dry out of cold water or ice-water. It really requires two persons to wring the sheet. (See Fig. 15-b.) While the patient is rolled over on one side, the properly folded wet sheet is placed in the middle of the bed. The patient is quickly returned to his back, and, with the arms extended above his head, one side of the sheet is quickly drawn over the chest and abdomen, and snugly wrapped around the leg on that side. The arms are now quickly brought down to the sides, and the other side of the sheet is brought over the chest and arms, snugly tucked about the neck, and wrapped about the other leg. Before all this procedure, dry blankets were prepared on the bed underneath the wet sheet, and these are now quickly brought over the patient, and in a very few moments the sufferer begins to feel much better: the fever is quickly reduced; the patient rests better, often falling asleep immediately after one of these packs. (See Fig. 15-c.) The wet sheet pack not only lowers the temperature, but also greatly lessens

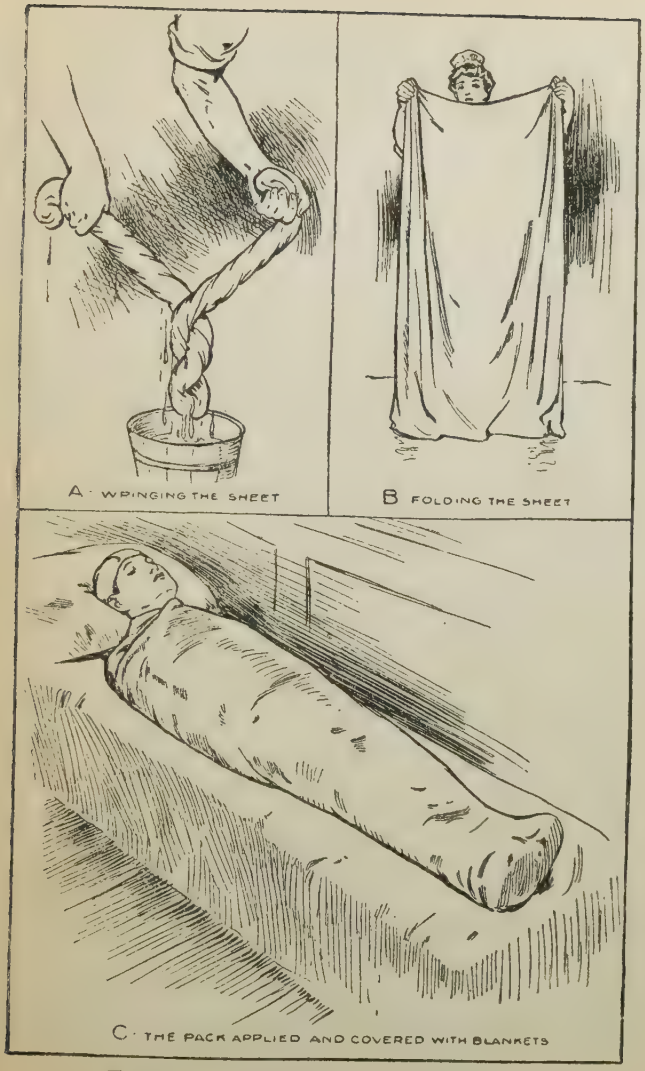

FIG. 15. The wet sheet pack.

all the nervous symptoms of the patient. These packs can be repeated two or three times if necessary. The worst cases of fever are usually controlled by giving one or two packs twice daily.

4. *Severe headaches.* When ordinary, generous cold-compresses about the head, face, and neck do not control headache, it will be found best to give alternate hot and cold compresses to the head and face. Fomentations to the face, especially over the eyes, are often helpful. Protect the eyes with pledgets of cotton or by smaller cold cloths. Fomentations should be given in accordance with directions noted elsewhere. (See page 101.)

5. *How to combat pneumonia.* The important thing in the treatment of influenza, aside from serious complications, is the prevention of pneumonia, and this may be effectually combated as follows:

a. Hot fomentations to the chest, front and back, followed by cold-mitten friction. Three changes of hot cloths are made, and then one cold-friction rub is given. This procedure

should be repeated every three to six hours, owing to the severity of lung complications.

b. In every way possible, keep the blood circulating in the skin. Keep the patient warm. This does not necessarily mean that he must breathe polluted and overheated air. The patient can be surrounded by hot water bottles and properly covered, while plenty of fresh air is admitted to the sick-room.

c. Pay special attention to keeping the feet and legs warm. If necessary, put extra clothing on the lower extremities.

d. See that the lungs are kept properly covered, and that the shoulders are not exposed. If the patient tries to sit up in bed, later in the disease, see that warm shirts or jackets are put on.

e. Provide the patient with plenty of fresh air day and night.

6. *The use of drugs.* Very little medicine is given by most physicians in influenza. Where it is possible to secure a physician, this matter as well as other phases of treatment should be left entirely in his hands. For throat gargles, nose sprays, etc., we cannot do

better than refer to the prescriptions recommended for the treatment of colds. (See pages 57, 86, 89, 99.)

In severe attacks of the grippe accompanied by unusual headache and great pain, use the foregoing treatments; remember also that considerable relief is usually obtained from the use of aspirin, given in five-grain doses, every five hours for the first two or three days. It is not advisable to keep up the use of this medicine longer in ordinary cases.

7. *Convalescence.* Too much emphasis cannot be laid upon the necessity of staying in bed with the grippe until one is entirely well. Do not make the fatal mistake of getting up too soon. Time and money will be saved by taking two or three weeks, if necessary, to get well. Don't go back to work, or about your duties until you feel quite strong. It is a fatal mistake to undertake one's regular work while one is still weak and wabbly from an attack of the grippe. Such presumption is likely to be rewarded later with attacks of nervous disorders, kidney trouble, and even heart difficulties.

CHAPTER IX

CHRONIC CATARRH AND COUGHS

CHRONIC NASAL CATARRH.—PATENT MEDICINES AND DRUGS.—THE CAUSE AND CURE OF COUGHS.—HAY FEVER.

REPEATED colds, influenza, grippe, etc., among other legacies and after-effects, not infrequently bequeath to their victims a chronic nasal catarrh or a persistent and troublesome cough that hangs on indefinitely.

CHRONIC NASAL CATARRH

A fresh cold in the head may very properly be called an acute nasal catarrh. When these colds in the head follow one another in such rapid succession that a new cold appears on the scene before its victim has fully recovered from the preceding attack; when colds come so thick and fast that the individual is never without one; then we may look upon the condition as one of *chronic nasal catarrh.*

The cause, then, of chronic catarrh is frequent and repeated attacks of acute catarrh — colds in the head. The treatment of chronic catarrh is simply the prevention and cure of common colds. The reader is referred to the chapters devoted to the cure of colds, especially to the advice given respecting the treatment of the second or moist stage of colds.

In the treatment of chronic nasal catarrh, every effort should be put forth to cultivate the general health and increase the vital resistance. Careful attention to the stomach and bowels, hot and cold baths for the promotion of the skin circulation, deep-breathing exercises, abundant water drinking, the outdoor life — plenty of fresh air and sunshine, together with proper physical exercise — are all concerned in the successful treatment and permanent cure of catarrh. Of course, it is equally necessary that the nose and throat should be carefully examined, and that all abnormalities there found, be removed or corrected. Any method of treatment or mode of living that will enable one to rise above common colds, will eventually effect his deliverance from chronic catarrh.

There is a stage of chronic catarrh known as *ozena,* more particularly affecting young men and women, which is characterized by an extraordinarily dry state of the nostrils. This condition is usually preceded by several years of chronic catarrh accompanied by a profuse and purulent discharge. Ozena is characterized by an extraordinarily foul and offensive breath — sometimes so bad as to fill the whole room with its odor. Large crusts form in the nose and the condition is altogether distressing and embarrassing. It is best treated by means of alternating hot and cold douching with some antiseptic and alkaline solution. A good solution for this purpose can be made by taking equal parts of common table salt, sodium borate, and sodium bicarbonate. Thoroughly mix these three salts and then use one teaspoonful of this powder to a pint of water.

PATENT MEDICINES AND DRUGS

We desire to emphasize the uselessness and harmfulness of the vast number of catarrh cures, cough mixtures, and other patent medicines, in the treatment of colds and catarrh.

Let us express a warning against the so-called cold cures, quinine and whiskey, and acetanilide, and other coal-tar preparations. While these medicines may sometimes mask the symptoms and afford temporary relief, it is always at the expense of future recurrence and increased debility, with lowered resistance on the part of the body. Colds and catarrhs simply concern the circulation of the blood, the accumulation of poisons within the body, and germs; and as means of their relief and management, drugs are quite useless, except in the form of throat gargles, cathartics, and local applications to the nose. Quinine and similar drugs check the oxidation or burning up of poisons in the body, depress the circulation, lower the temperature, lessen perspiration, and diminish the activity of the white blood-cells in their work of destroying the infectious germs.

There are numerous complications and situations connected with the treatment of colds, which may often lead the family physician to prescribe certain useful medicines. We are not in any way agitating against the scientific

use of drugs. It is the "patent medicines," "cold cures," "catarrh cures," and other nostrums, sold over the counter of the drug-store, that we are decrying. When you take medicine in any form, have your doctor prescribe it for you, and not a druggist.

There is no sure preventive of colds. The best of us will have an attack now and then. Our purpose in this little volume is to point out the causes which lead up to colds, to urge their prevention, and to offer practical suggestions for their treatment.

THE CAUSE AND CURE OF COUGHS

Coughs are a distressing accompaniment of many colds, especially when they have a tendency to settle upon the lungs. Coughing is a symptom of many and varied conditions which may affect the throat and lungs, and may be one of the symptoms of such grave diseases as bronchitis, pleurisy, pneumonia, or even tuberculosis. Whooping-cough is so well-known from its characteristic *whoop* that there is little danger of confusing it with coughs due to other causes.

There are numerous causes, outside of the throat and lungs, which may be responsible for an acute or chronic cough. Hardened wax in the ear often produces coughs in children, as well as dizziness in adults. An elongated or relaxed uvula may also be responsible for spasmodic coughing. Other common conditions responsible for chronic coughing are constipation, intestinal worms, dyspepsia, and liver disorders. Coughing is also often associated with the excessive drinking of alcoholic liquors.

Coughing frequently follows attacks of the grippe, and if it is long persistent, it becomes a serious symptom indicating general debility. In children, persistent coughing is frequently associated with adenoids and enlarged tonsils. It cannot be denied that "suggestion," that is, the state of the mind, may have much to do with perpetuating a tendency to cough. If we hear a person cough, we ourselves almost instinctively have a desire to cough. It has been found that the victims of chronic coughs are able to exercise considerable control over this affection by the direct exertion of their own wills; that is, if one makes up his mind to

stop coughing, his determination proves to be of great assistance in overcoming even the most troublesome and chronic coughs.

If the lungs are producing large quantities of mucus or muco-purulent matter, the cough should be welcomed. Productive coughs serve a useful purpose in nature's efforts to recover from various diseases affecting the lungs. The objectionable coughs, which we especially desire to treat and cure, are the dry, hacking, unproductive coughs. Coughing is frequently controlled by steam inhalation, or by breathing the fumes arising from a small basin of boiling-hot water to which one-half teaspoonful of compound tincture of benzoin has been added.

A good prescription for persistent and troublesome tight coughing, is the following:

Potassium iodide	10 grains
Potassium citrate	5 drachm
Potassium acetate	5 drachm
Water	4 ounces.

Mix and label: Take one teaspoonful in a half-cup of water once an hour until the cough is loosened.

Hot and cold sponging of the chest, the wearing of the throat compress as described on page 91, or the wearing of the chest pack as suggested for colds on the lungs (see page 103), are all exceedingly useful in the control and cure of chronic coughs.

The following compound will be found of special value in relieving cough in infants or young children:

Steep two tablespoonfuls of flax-seed in a small quantity of water. Flavor with the juice of one lemon, and sweeten with a little rock candy. The mixture when finished should be of creamy consistency.

HAY-FEVER

Hay-fever is a troublesome affection of the respiratory mucous membrane due to the inhalation of the pollen from numerous plants, such as the rag-weed. Hay-fever may also be caused by inhalation of the odors arising from various animals. There really seems to be a true and a false hay-fever, the true hay-fever being produced alone by the inhalation

of pollen; while false hay-fever may be produced by certain diseases, deformities, and irritations of the nasal mucous membrane.

One thing seems quite certain. Nearly all victims of hay-fever are more or less *neurotic;* that is, the nervous system is more or less lowered in tone or otherwise weakened. In some highly nervous individuals, it may even be possible that the imagination plays a considerable part in many of their attacks of sneezing, and other hay-fever manifestations.

All efforts directed toward the prevention of hay-fever should make provision for the thorough-going treatment of the nervous system, improvement of the digestion, and the relief of any irritating or inflammatory disease of the nose and throat. Crooked nasal septums, enlarged turbinates, etc., should be thoroughly corrected before the approach of the hay-fever season. (See Fig. 1.)

In recent years, a hay-fever serum has been developed, but its use has not proven altogether satisfactory. In spite of all that can be done, some sufferers from this annoying malady are unable to gain relief except by a journey to

some special climate, notably some of the Eastern mountains, or the shores of Lake Superior or Lake Huron.

Sometimes, by the use of some simple smelling salts, hay-fever attacks may be aborted, or greatly lessened in severity. A useful smelling salt for this purpose is the following:

Carbolic acid	30	drops
Ammonium carbonate	1	ounce
Charcoal powder	1	ounce
Lavender oil	20	drops
Comp. tincture of benzoin	½	ounce.

Other disorders of the respiratory apparatus frequently associated with hay-fever, such as asthma, etc., should always receive the attention of a competent physician. In fact, the majority of conditions treated in this volume demand medical attention; and this book has not been written with the thought of displacing the advice and counsel of the family physician, but rather to supplement it — to serve as a guide book to the patient in effectually and successfully carrying out the orders of his medical adviser.

More recently a large number of specific

tests have been devised which make it possible, in the examination of hay-fever and asthma patients, to arrive more nearly at a diagnosis as to the exact forms of protein, pollen, or other irritating substances, which may be regarded as specific causes of their hay-fever or asthmatic attacks. We are now able to test out the patient, not only to ascertain if the numerous pollens may be the cause of trouble, but also as regards such substances as goose feathers, horse dandruff, and the numerous forms of protein associated with different food substances.

Now while this work is more or less in the experimental stage, nevertheless our experience with it the last few years has been very satisfactory, and within a few years this method of diagnosis promises to give us more or less complete and satisfactory information in at least ninety per cent of these perplexing cases.

The great value of this improved method of diagnostication is that it furnishes us the clew for specific treatment. If we discover that a certain form of pollen, or a certain sort of protein, is the cause of an individual's hay-fever

or asthma, then we can immediately start in with our process of immunization. That is, we begin the procedure of administering very minute doses of this offending substance to the patient, at frequent intervals, all the while gradually increasing the dosage, until by and by the patient acquires more or less complete immunity or indifference to this substance. While this method of treatment is proving more and more successful, we are compelled to confess failure in a certain percentage of cases, but it has given the best results, in recent years, of any method of relief heretofore devised, and to-day offers the greatest possible help to hay-fever sufferers — outside of complete change of climate — while it offers the greatest help of any procedure yet devised when it comes to the treatment of certain classes of asthmatic sufferers.

Any nose and throat specialist, or other physician having experience with this sort of tests and in the administration of vaccine and serum treatment, will be found competent to carry a patient through this regime, and to prescribe and administer the necessary treat-

ment which may be indicated by the outcome of this series of tests. Though, as might be expected, those more experienced in dealing with these cases will probably secure a higher percentage of successes in carrying out this method of treatment. We are just beginning to learn that sometimes it is necessary to repeat these courses of vaccine treatment after the lapse of a few years. Whether or not experience in years to come will enable us to perfect the vaccines so as to yield more permanent results remains to be seen.

CHAPTER X

RECENT VIEWS OF COLDS AND THEIR TREATMENT

SINUS INFECTIONS.—INFECTED TEETH.—NEWER METHODS OF TREATING TONSILS.—ASPIRIN IN THE TREATMENT OF COLDS.—VACCINES IN THE TREATMENT OF COLDS.—DIPHTHEROID COLDS.—WHOOPING-COUGH.—LIGHT TREATMENT IN COLDS AND BRONCHITIS.—RHEUMATISM AND CONSTIPATION IN RELATION TO COLDS.—ACIDEMIA IN RELATION TO COLDS.—FOODS WHICH TEND TO ACIDIFY THE BLOOD.—FOODS WHICH TEND TO ALKALINIZE THE BLOOD.—"HARDENING" BATHS.—EXPERIENCE WITH THE LAST INFLUENZA EPIDEMIC.—CATARRHAL FEVER.

AS regards the general principles and methods of preventing and treating colds, we have to confess that little progress has been made in the last dozen years, or since the manuscript for the earlier editions of this

work was prepared. On the whole, the methods followed by the author are much the same as those so fully outlined in the earlier chapters of this little book. The information which has accrued from additional experience, and the newer suggestions regarding the management of colds, influenza, etc., are embodied in this chapter.

It should be emphasized that humidity is an important feature in the prevention and treatment of colds. Lack of moisture in the air of working- and living-rooms has much to do with drying up the mucous membranes of the nose, throat, and lungs, and thus predisposing to infection and inflammation.

SINUS INFECTIONS

The routine employment of the X-ray in taking pictures of the sinuses — those air spaces of the head — together with improved methods of sinus illumination, has served clearly to show that many of our older cases of so-called "chronic colds" in the head were nothing more nor less than sinus infections — pus in one or more of these air spaces or cavities in the head

surrounding the nose, within the cheek bones, at the root of the nose, or at the lower part of the forehead just between the eyes. These sinuses are illustrated in the frontispiece (see Fig. 1) and will not here be described in detail. Very often these chronic sinus infections will yield readily to the frequent application, to the nasal chamber, of certain medicines which have a tendency to shrink the swollen and congested mucous membranes of the nasal cavity, and thus permit the openings leading to these sinuses, which have been closed by congestion, to reestablish the drainage of the infection from the sinus cavity. It is hardly likely, except in exceptional cases, that a patient would be warranted in trying to administer such treatment, and specialists practicing in this field use many different prescriptions. One commonly used, and which is given here as a suggestion to the physician—one which we have found most efficient in our practice—is the following:

Glycerine	2 drachms
Phenol	12 minims
Adrenalin	40 minims

Aquae	2 ounces
Cocaine	10 grains

The head should be elevated at night by two or more pillows, in order that normal drainage may be the better encouraged.

Many cases of sinus infection have been produced by the rupture of an infected tooth — that is a pus sac at the base of a dead or diseased tooth bores around until it infects the sinus, and its proper treatment and care entails the removal of the tooth, and treatment of the sinus infection with drainage through this dental channel.

Surgical interference may be necessary in the more persistent cases. This is usually done by draining through the nasal cavity so that no external wound is made and no scar is left.

The infectiousness or transmissibility of colds is becoming generally recognized. In the case of a school where toothbrushes were kept in a rack, it was found that the colds progressed from one individual to another in exact ratio to the position in which the toothbrushes were placed in the rack above the washbowl.

INFECTED TEETH

If we take X-ray pictures of devitalized teeth, at least those that have been crowned for a number of years, we find the vast majority of the roots infected. Most of the older fillings of root canals are also found to be defective, and present evidence of more or less infection. A great deal of the rheumatism that used to be charged up to either meat-eating or bad tonsils, we now discover to be due to infected teeth, and it should be remembered that serious infection may exist at the roots of the teeth without presenting the usually expected symptom of toothache. You can have rheumatism and other trouble from a bad tooth that has never ached.

Pyorrhea — that disease characterized by softening and loosening of the gums at the margins where they meet with the teeth — is a disease which may be more or less concerned with chronic mouth, throat, and nose infections, and thus indirectly associated with chronic catarrh or colds. The importance of the teeth in this matter of infection has become so recognized in recent years that we never think of making a complete examination of a patient

over sixteen years of age, without taking an X-ray of every tooth in the head and submitting these pictures to an expert dentist for an opinion. The modern school of dentistry looks with disfavor upon devitalized teeth, and leans more and more to the employment of removable bridges in place of the old-fashioned stationary, filth-accumulating bridges. Some dentists now believe that all dead or devitalized teeth will sooner or later become infected. Some authorities also believe that the chief service of the toothbrush in the hygiene of the mouth has not so much to do with the preservation of the teeth as with the hardening of the gums. The daily brushing serves as a sort of massage of the gums, to take the place of the hard food which we do not eat, and thus the brushing has a tendency to keep up the circulation in the gums, and so prevents pyorrhea.

NEWER METHODS OF TREATING TONSILS

The author has not seen sufficient results from the newer methods of treating tonsils to warrant the optimism expressed by some authorities. While these methods are adapted to

certain individual cases, and may be of more or less value in even the average case; while we have used suction, vibratory massage, ultra-violet rays, radium, X-rays, etc., and have found all of them to be of more or less value, yet they do not take the place of the removal of a useless organ such as the diseased tonsil is when it has long been involved; and the employment of such methods impresses the author as being much on the order of treating a diseased appendix instead of removing it by surgical operation. You may help it, but you are treating the diseased organ at the jeopardy of health and life, and sooner or later its removal is nearly always necessitated if the patient is to experience full restoration to health.

There is no question of the immediate value, of the temporary relief to be secured by sucking infectious matter out of the crypts of the tonsil. Neither can there be doubt of the value of vibratory massage or ultra-violet rays in reducing inflammation in acute tonsilitis, for it must be remembered that many tonsils are not permanently diseased, nor is their functional

usefulness fully destroyed by a few inflammatory attacks, and so it is worth while to undertake to improve and preserve, in a few instances, such sick or only partially destroyed tonsils. But, in the author's opinion, in those cases of chronic tonsilitis, quinsy sore-throat, repeated and recurrent pharyngitis — sore-throat — the sooner the thoroughly diseased tonsils are removed the better it will be for the patient's present and future health.

The turbinates (see Fig. 1) may be so enlarged in some cases as to necessitate the removal of a part of the turbinate itself, but in many cases it is found that this turgescence, or enlargement, may be suitably reduced, at least for many years, by the application of high-frequency electricity by the method known as "fulguration." Even if this process of reduction does not prove permanent, it proves very satisfactory for from three to even six or eight years, and certainly affords great relief to the patient. It is a very simple procedure, done under local anesthetic, and requires only a few minutes at two or three sittings to complete the work.

ASPIRIN IN THE TREATMENT OF COLDS

The author, while recognizing the pain-relieving and quieting value of aspirin and other salicylates in the treatment of colds, grippe, etc., greatly deplores the extent to which the public has come to drug itself with this supposedly harmless medicine. In recent years the author has come to use this class of drugs very sparingly in the treatment of these catarrhal fever disorders, colds, etc., not merely because of the effect in deranging digestion, or any possible influence on heart action if used too extensively, but because of the tendency they have to cause the patient to sweat, and there is the ever-present danger that the patient will chill in connection with, or following, these sweats, and we know that chilling is the one big thing to be avoided at every stage of the treatment of a common cold.

I think it would be a safer plan for the average layman to form a resolution not to take aspirin unless it was prescribed for him by a physician. You know we physicians look with great disfavor upon the tendency to prescribe for ourselves. We look with suspicion upon

self-drugging even on the part of the profession. I should really hesitate to administer aspirin to myself without at least either carefully weighing the indications, or else seeking the advice of a brother practitioner as to the advisability of taking the drug. And if we men of medicine fear to prescribe for ourselves, how much less should the inexperienced and unsuspecting laymen presume repeatedly to dose themselves with such a drug as aspirin, or for that matter any other active medicinal compound.

VACCINES IN THE TREATMENT OF COLDS

Much was said in the public prints on the subject of vaccines during the recent influenza epidemic, and we are bound to confess that we are "up in the air" as regards their value in the epidemic stage of influenza. The author, from his own experience, could cite illustrations both for and against the supposed value of influenza vaccines. The fact that they were more or less a failure, we believe is due to our inability to isolate the real germ that causes epidemic influenza. There exists real doubt as to whether

the epidemic form is caused by the Pfeiffer bacillus, as we have heretofore supposed.

But when it comes to the prevention or treatment of common colds by means of vaccines, we have another story to tell. The author is definitely convinced that various combined catarrhal vaccines — those containing the vaccines for the strains of common bacteria found in the nose and in association with common colds — we say that our experience in recent years has been very favorable as to the value of these vaccines in preventing common colds. Though we must frankly confess that they do not always succeed; that when the exposure is overwhelming and when the immunity is exceptionally low grade, colds come in spite of the vaccines, but even then they seem to be less severe and the vaccine serves in some measure to abort the attack, even when it fails wholly to prevent it. And so, from personal experience, and from careful observation in the treatment of a large number of patients, we are forced to recognize that these vaccines are of real value, and we look forward to the day when we may understand more concerning the

cause of colds, and may be in position, therefore, better to perfect this vaccine treatment. In the meantime we can only expect partial results from this form of treatment, as we at present understand and administer it.

Diphtheroid colds. We are coming more and more to recognize that in the case of certain children — and adults, too, for that matter — many sore-throats and even colds in the head belong to the diphtheria group; that is they are caused by some form of diphtheria bacillus. Now in recent years we have come into possession of the means of recognizing this form of sore-throat — by means of the Schick test. Your physician can obtain a diphtheria toxin which he can inject just beneath the upper layer of the skin (the Schick test) and your reaction to this injection will determine whether or not you are susceptible to diphtheria, or diphtheroid colds and sore-throats, and if the test should show that you are susceptible, you can take a small immunizing dose of diphtheria antitoxin, and that trouble will be over for a year or more — possibly for several years. After a few years the test may be made again, and you can

determine whether or not your immunity is lasting. Of course, this test is invaluable in determining the susceptibility to diphtheria, and we should be glad indeed to have this means of preventing this dreaded disease of childhood.

Whooping-cough. Closely allied to the subject of cough and catarrh is that of whooping-cough with its troublesome paroxysms, and the reader will be interested in knowing that in recent years there has been perfected a pertussis vaccine whose prompt and proper use will do much toward aborting the severity of this childhood disease. In some cases, after the first administration of this vaccine, the disagreeable coughs with their distressing whoops practically disappear. But even in those cases that are not so wonderfully relieved, the severity of the attack is enormously decreased.

LIGHT TREATMENT IN COLDS AND BRONCHITIS

In recent years there have been perfected a number of very practical and useful forms of apparatus for administering light treatment in the home (see Fig. 16). Heretofore the trouble with using light in the home treatment of these

common household disorders was that a light sufficiently powerful to give the desired effects could not be attached to the ordinary electric-lighting socket found in the average home. This difficulty has now been overcome, and practical inexpensive forms of apparatus can be had which will work perfectly when attached to the electric-light socket found in any room of the house. And this light, wisely applied, or used as directed by the family physician, will be found of great value in treating the earlier stages of colds and sore-throats, and of even more help in the third stage, as suggested in former chapters, when the inflammation has a tendency to go down into the lungs or some other internal organ.

These simple lights we now have in the hospitals, and they can quickly be taken to the patient's home. Many physicians are supplied with these newer forms of therapeutic light for home treatment, and can furnish them and direct their use to the patient as required.

Light is a very penetrating form of heat, and is much to be preferred, when it is available, to the use of moist heat — fomentations and other

Fig. 16 Light Treatment for Colds

methods of treatment suggested in former chapters — all of which are more or less associated with the danger or tendency to chill. The danger of "chilling" has always been an objection to the employment of moist heat, such as steam, hot fomentations, etc. Now we have, in the form of light which can be used in the patient's home, a method of securing more valuable, penetrating, uniform, and at the same time a thoroughly controlled form of heat administration.

The author's attention has more recently been called to a new device which has been perfected for automatically controlling the administration of this form of light and heat — an attachment that can be so adjusted that the heat automatically goes on and off, thus enabling the patient to have long periods of light treatment without overheating, burning, etc., and without requiring the constant service and attention of an attendant.

RHEUMATISM AND CONSTIPATION IN RELATION TO COLDS

Years ago, rheumatism was thought to result largely from errors in diet, with the pos-

sible contributing factors of cold and exposure. Now rheumatism is known to be the result of so-called "focal infections" — that is infection of the tonsils, adenoids, teeth, and sinuses. Even pyorrhea may cause rheumatism, not to mention infections of the gall bladder, appendix, Fallopian tubes, together with ulcers of the stomach and bowel — in fact any form of infection — any place where pus may be harbored in the body, from which focus of infection the toxins and microbes may go forth to settle in the joints and other parts of the body to produce rheumatism, neuritis, neuralgia, lumbago, sciatica, etc.

In a former chapter attention has been called to overeating and its possible relation to colds. It should be emphasized that mischief is wrought in these cases where the overfeeding has directly to do with causing increased fermentation of food products in the digestive system. It is in this way that the treatment of constipation becomes one of great importance in the management of chronic colds. If we would overcome the tendency to recurrent colds we must, in the majority of cases, secure free and

frequent bowel action. In recent years I have found it a great help, in those persons of lowered vitality — individuals more or less debilitated and subject to frequent colds — I say, I have found it of great help to secure a regular bowel movement twice each day. Of course, it is needless to add that it is unwise to depend either upon cathartics or enemas to secure proper bowel action, though mineral oil, agar-agar, and bran are useful remedies — remedies which can be used indefinitely without in any way harming the bowel or establishing so-called "habits," unless in the case of colitis or catarrh of the bowel, in which bran will have to be used with discretion.

ACIDÆMIA IN RELATION TO COLDS

In recent years, careful study of colds, influenza, etc., has convinced the author that during and just previous to these infections the body fluids are nearly always highly acid, and it has become our practice the last few years to administer some form of alkali, methodically, in the early hours of a threatened cold or attack of influenza. The alkalies are administered

after the following general method: We have the patient take a glassful of lemonade every two hours, to which a quarter of a teaspoonful of baking soda has been added; or we may prescribe one or two grams of sodium citrate in lemon or orange syrup, to be taken diluted with a glassful of water every two hours.

The liberal use of fluid is important in all cases of this, as well as of other fevers. From one-half to one tumblerful should be given every hour while the patient is awake. It may generally be prescribed in the form of liquid diet, given every two hours, and a fruit drink (lemonade, orangeade, grape or raspberry juice and water) every two hours, alternating with the diet.

But the use of some form of alkali (soda), while it is of value as an immediate treatment when coming down with a bad cold, cannot be depended upon indefinitely to keep the acidity of the system down. It should be explained in this connection that when a fresh specimen of urine is analyzed, in the average person, it yields, according to the standard method of testing it, an acidity that is spoken of as 30 de-

grees. Now, in connection with a cold, it is not uncommon to find acidity anywhere from 50 degrees to 100 degrees, or higher. When it comes to the question of the prevention of colds (as concerns acidity) it is always necessary to depend upon the diet. In this connection, it is well to call the attention of the reader to the fact that all the foods we eat are burned up in the body, and form either an acid or an alkaline ash. That is, the end-products of metabolism are either acid or alkaline. The following classification of foods will show at a glance those which contribute to lessening acidity.

List of foods showing the end-products of digestion increasing or decreasing the acidity and alkalinity of the blood. (Fats and sugars are practically negative and are therefore not included in this classification.)

FOODS WHICH TEND TO ACIDIFY THE BLOOD

1. *Animal foods:* All forms of flesh foods, fish, fowl, etc., including all kinds of meat broths, soups, beef tea, bouillon, etc.

2. *Eggs.*

3. *Breadstuffs:* All kinds of breads,

whether made of wheat, rye, or corn, crackers, toasts, griddle cakes, etc.

4. *Pastries:* All sorts of pies and cakes (except fruit pies, and other desserts containing milk or sour fruits).

5. *Cereals:* Rice, oatmeal, and breakfast foods of all kinds, including the flaked and toasted breakfast foods.

6. *Miscellaneous:* Peanuts, plums, prunes, and cranberries. (Plums and cranberries come under this heading because of their benzoic acid, which the body cannot fully oxidize.)

FOODS WHICH TEND TO ALKALINIZE THE BLOOD

1. *Dairy products:* Milk, ice cream, cottage cheese, cheese, buttermilk, etc.

2. *Soups:* All forms of vegetable and fruit soups and broths.

3. *Fruit juices:* All the fresh fruit juices (except plum juice).

4. *Fresh fruits:* All fresh fruits — sweet and sour — (except plums and cranberries).

5. *Dried fruits:* All dried fruits (except prunes) — especially figs, raisins, dates, and currants.

6. *Vegetables:* All kinds — especially beets, carrots, celery, and lettuce.

7. *The legumes:* Beans, peas, and lentils.

8. *Nuts:* All the nuts come under this heading, including almonds and chestnuts.

9. *Miscellaneous:* Potatoes and bananas.

We should not for one moment feel called upon to discard the acid, ash-forming foods — they are good foods, but those who are victims of a catarrhal tendency of the mucous membranes, those who are subject to chronic colds, should see to it that they eat more liberally of those foods which are alkaline ash formers. In this way they will help to maintain a better resistance to these chronic or acute recurring infections.

"HARDENING" BATHS

The various processes of hardening the system against cold are useful in the average robust individual. Cold baths taken in the morning are useful, as previously indicated, in fortifying the circulation to resist certain chilling influences. And it must not be forgotten that chilling nearly always goes along with the

onset of an attack of cold or influenza. Hardening is a good method while in robust health, but don't attempt any foolhardy method of this sort after the cold has arrived. In health we may expose ourselves to hardening, roughening procedure, but after a cold has been contracted the individual should be "coddled" in every sense of the word. We must do everything possible to prevent chilling, and this is why the patient who has a cold, and has a fever at the same time, should be kept absolutely in bed. He should not be permitted to leave the bed, even to go to the toilet. The bed pan or urinal should be employed, and while the fever lasts —especially the first three days—the patient should be confined strictly and continually to the bed.

EXPERIENCE WITH THE LAST INFLUENZA EPIDEMIC

As medical men had anticipated and had predicted, a world epidemic of the influenza struck us during the winter of 1919-20. It comes regularly about every thirty years. While we have sporadic attacks of influenza between

epidemics, the immunity that follows a world-wide epidemic is usually sufficient to protect one generation against another such outbreak. That is, after it thus sweeps over the world, those who are alive have acquired more or less immunity. Those who were highly susceptible are, in most cases, dead. Then we have the ordinary grippe, influenza, catarrhal fever, common colds, etc., with us for another period of thirty years, until we grow up another non-immune generation. Then the stage is set, some autumn as soon as the inclement weather arrives, for the epidemic to spread over the world, governed in its range only by the rate of human travel.

The recent epidemic was characterized by an unusual feature, a peculiar and tremendously fatal form of pneumonia. And yet it was hardly a pneumonia. The patients simply filled up with a serum in the lungs and were literally drowned in their own secretions. It seems the more hardy the patients the more certain they were to perish. The vast majority between the ages of twenty and forty, who had this double pneumonia, died. The younger and the older

seemed to fare better; but in the author's experience, in the latter part of the epidemic, after we resorted to enormous doses of atropin, many of these pneumonia cases were saved. But we are not likely to see, in the next twenty-five years or more, another such recurrence of influenza — another such world-plague.

After all, very little was learned as to the improved treatment or management of epidemic influenza. One or two forms of vaccine were tried, but the results, when all taken into consideration, were more or less indifferent. Though in one case where the author administered influenza vaccine to some four or five hundred resident students in an educational institution, the results seemed to be very encouraging. But perhaps the other phases of the strict regime of quarantine, prophylaxis, not to mention possible immunity, are deserving of equal credit as regards the favorable results apparently secured.

CATARRHAL FEVER

It has been suggested by someone that we should take influenza, grippe, and common

colds, put them in a class, and call the whole group *catarrhal fever,* and to the author this seems the sensible thing to do, for we must frankly admit that we are frequently confronted with the case of a patient coming down with an infection and neither from the early symptoms, nor from observing it for a number of days, are we able honestly to say whether we are dealing with a case of influenza or grippe, or whether the patient simply has a severe common cold. Some day we may have these processes more scientifically classified, after we have found out more about their germ-causes. All we can say now is that these colds are caused by one or more forms of "virus," and whether this virus is always some form of bacillus and its toxins, or whether there are other and as yet undiscovered ultra-microscopic living or chemical bodies which can cause these colds, after the fashion of pollen irritation as the cause of hay-fever, we do not know. We are all looking for more light as to the cause of colds, and better methods of treatment will probably have to await further discoveries in this direction.

It should be understood that the microbes found in connection with ordinary colds are of a very common sort — they are almost everywhere present and may be found almost any time on the healthy mucous membrane of the nose and throat of the average individual, so that the cause of colds, be it "virus," whether living or chemical, seems to be always present with us. The trouble is that colds belong to that group of diseases which, like diphtheria, confer but a short-lived immunity. After an individual has had a cold it is almost impossible to give him another within anywhere from three months to a year. In some individuals this immunity seems to have vanished within a year. In fact some persons have an annual cold, and are quite immune between times.

When an individual is confronted with an attack of catarrhal fever (colds, influenza, etc.) there ensues a strenuous struggle for the establishment of immunity, which lasts two or three days, and is followed by a more or less dubious period of several days in which the immunity-equilibrium of the patient is doubtful and uncertain. It is during this stage that great care

must be exercised to prevent trouble in the way of complications such as pneumonia, kidney trouble, etc.

One thing seems certain about the "virus" of colds and influenza. It must be spread from one person to another, and largely through coughing, sneezing, spitting, etc. This is why all persons, not excepting school children, should be isolated when they are coming down with a cold. And may we emphasize here what has previously been mentioned — that is the importance of removing all foci of infection in our effort to prevent recurrence of colds. That is, see that all diseased tonsils, adenoids, nasal polypi, etc., are removed; that deflected nasal septums are straightened; that enlarged turbinates are shrunken; that everything is done to help the victim of chronic colds to rise above that point in his vital resistance where he is eternally subject to infection on the slightest disturbance of his circulation, digestion, etc.

It should be added, in this connection, as the result of our experience in the recent influenza epidemic and the more recent study of colds, that we have less and less faith in throat gar-

gles, liquid antiseptics, etc. They may be of some value in the very early stage of the cold, but their germicidal function is doubtful. Washing the nose out with a solution of warm salt water may be soothing and beneficial. In fact we now know that anything which lessens the pain and dryness of the nasal mucous membrane in the early stage of a cold is helpful. We not infrequently wholly abort the nasal manifestations of a cold by the early application of such shrinking preparations as adrenalin, and if under the direction of a skilled physician even a small amount of cocaine is added to one or two applications of this substance, at a time when the nose is stopped up, mucous membrane dry, and breathing painful, it has been found to be very helpful in aborting the cold. The influence of these preparations is probably to be explained on the same ground that putting a drop of cocaine into an inflamed eye will sometimes stop or remove the inflammation. That is, by relieving the pain the congestion subsides, and suggests that a part of the congestion is not only due to the infection, but also results from the reaction of

suffering which is associated with the pain experience.

We are coming more and more to believe that the sweating or heating procedures associated with a cold exert their beneficial influence not by the mere elimination of poisons by the sweating, but that these heating procedures tend to produce an early and artificial fever, and that it is the heating influence upon the body that hastens the processes of immunization. For we now well understand that when Nature produces a fever in connection with these infections it is for the purpose of hastening the process of immunization. In other words, the fever — if it does not run too high — is definitely curative in its influence. And this suggests that the keystone of all treatment in these cases is to keep the patient *thoroughly and continually warm.*

Outside of the initial cathartic, which may consist of a dose of salts or of castor-oil, the author does not believe it wise to continue their use in these various forms of catarrhal fever, and he has already intimated that he deems it unwise extensively to employ such medicines as

those which have a tendency to reduce fever, to produce sweating — such as aspirin, antipyrin, etc.

On the second or third day, if the bowels do not move, I would recommend giving a warm enema in which there has been dissolved a teaspoonful of baking soda to the pint. If it is necessary to give cathartics, I prefer to use some mild laxative like cascara sagrada, of which a teaspoonful or more of the aromatic fluid extract can be given at bedtime.

The most important thing to emphasize is that when a patient has fever he must be confined to bed. In this way, much of the kidney, heart, and life-long organic troubles following severe attacks of catarrhal fever, colds, etc., may be prevented.

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